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### LYMAN ABBOTT, D.D.

PASTOR OF PLYMOUTH CHURCH.

THIS is a strong character, connected with a sensitive, intense, enduring, but not very strong bodily constitution. He is tall, thin and wiry; like an umbrella frame, strong and enduring for the amount of material of which it is composed. The brain is the most conspicuous feature of the organization. The head, which we judge to be 23 inches in circumference, rises high from the opening of the ear, and it is also lofty above the eye. Sometimes a head is high on a line drawn from one ear to that of the other over the top, and it slopes down and becomes pinched and narrow in front. Such a man will have a great deal of character, but not much talent. He will be headstrong and proud, perhaps severe, but he will lack the sympathy, the ingenuity, the imagination, the logic, the comprehensive ness of mind, and retentiveness of memory. There are heads that wear large hats, but the largeness is mainly developed in the region of the propensities, pride, prudence, policy and perversity of temper. But this head is amply rounded and massive in front, and it is not wanting in the central and posterior portions.

The word intellect expresses more of what Dr. Abbott is than any other. That embraces perception, memory, analysis, logic and intuition, and the power of expression. He is a thinker par excellence. His large Comparison enables him to dissect a topic into fibre; and then his logic enables him to braid the fibre as we do a whip lash, and give it another form of power.

He has large Mirthfulness. He sees the incongruities and absurdities in people's reasonings or in their conduct. He must be good in repartee, not necessarily a joker, but he responds sometimes in a quiet way to the utter vanquishment of his adversary, yet the adversary will laugh.

This is a bright intellect, not merely strong like a trip hammer, and it has brilliancy, alacrity and criticism. It is more like a piano than like a bass drum.

He has large Constructiveness, which has less to do with the combination of things physical in the way of mechanism than in the combination of thoughts, statements, arguments and mental forces that minister to results. A complex intellectual problem is not mysterious and confusing to him; he comprehends it. Then he devises the

means to make abstract things practical, available and appreciable. He has a disposition to simplify truth rather than to pile it up in masses that astonish and amaze without that analytical definition that makes it understood. When we look at a brick wall half a mile off it is a great red mass, in one solid piece like the Rock of Gibraltar, but when we approach it nearer we see there are courses and tiers, and these tiers and courses are divided into sections eight inches long; so the mass is defined; the sum total is reduced to its constituent elements or factors. It seems but play to a man like this to take a great knotty subject that has puzzled thinkers and expounders for ages and disintegrate it, show its constituents, make it simple. The greatness consists in comprehending the massive subject, and the skill consists in defining and illustrating it so that the common thinker sees it in a new light. Constructiveness, Causality and Comparison are the organs that do this work, but Ideality and Spirituality enable him to appreciate the theme.

The height of the front part of the top-head shows large Benevolence. It gives a beneficent feeling, the tendency to do service that shall be lasting. He may not hand out a dole to a beggar unnecessarily as readily perhaps as his sympathetic predecessor would have done; but he has a wonderful insight into human character. He reads men like a book; those who are total strangers. If anybody gets the best of him, or the blind side of him, it is those he has learned to love and respect, and whose errors of judgment may lead them to ask more than is proper.

Spirituality being strong gives him a theoretic insight into moral topics. Sometimes theological people talk about spiritualizing subjects. He has the power to logisticize and spiritualize, to take the local framework of the truth and to see also its inner and beneficent elements as well.

Hope seems to be strong. He dares to undertake a good deal that another man with equally large Caution might hesitate to do. He is prudent; he is economical. He has a sense of value; and as a business man he would take good care of the financial side of his affairs. He has belief in financial integrity as regards business, but it is subordinate to the moral law. He would naturally think that men who were trying to square their lives with the higher equities and spiritualities of life ought to be honest and truthful in the common daily affairs. A sharp business trick by a man who professes to be amenable to the higher laws of living might be understood by him to be in accordance with a given mental make up, but, nevertheless, it would seem very incongruous. With his Acquisitiveness, he understands business principles better than many clergymen, and would appreciate the temptation that financial prospects might present to a man who sought to be true and faithful; yet with his large Conscientiousness, Veneration, Benevolence and Spirituality he would be able to raise himself above the temptation, and perhaps, at the same time, feel a spirit of leniency toward one who was not so well endowed in the moral elements. He has logic enough and reasoning power to understand that a man may be one sided in his mental makeup, possessing strong temptations to do that which is not according to rectitude, and alternately be honestly enthusiastic in his religious emotion and be true to his nature in his religious manifestations. Men can have strong passions, and sometimes yield to them. They may have strong religious emotion, and generally carry these above the lower temptations of life; but if they fall out by the way, they may cry out as one did of old: "O wretched man that I am, who shall deliver me from the body of this death?" Great natures are apt to have great defects or excesses in certain sides of the character.

A side view of this head would show the major part of the brain forward of the ears; and if a line were drawn from the centre of Causality to the centre of Cautiousness it would show an ample elevation upward, a filling out, a rounding of the top head indicative of the higher moral senses.

His legal training working with such an analytical and crisp intellect as his, gives him the ability to present his moral topics in a more clear and vigorous light than most quiet speakers and writers are able to do. He has a vivid imagination, but it does not get out of the logical harness. To him, intellect is as ballast to the ship; while the sails of imagination may be filled with heavenly breezes the ballast keeps the hull steady. Therefore intellectually he is able to sail pretty close to the wind; that is to say, work up against the wind, taking advantage of the opposition and converting it into headway.

He must be a very able debater, and the clearness and vigor of his statements will be found everywhere in his writings. He can find fault with people; at the same time he does not do it in a way to exasperate them. His opponents will accept his criticisms and smile at their own defeat because it is so fairly done, so good naturedly accomplished.

There are many other points we might bring out advantageously if we had our hands on his head. If his life and health are spared until man's allotted three score and ten, he will continue to rise, broaden and establish his claim to intellectual supremacy among his compeers as a teacher in the natural ethics of the higher life. If he had more body, more blood, more impulsiveness, he would be a more popular orator and meet the wishes and inspire the admiration of the middle and lower lines of human development; and yet, where he has personal contact he allies people to him very intimately and becomes an elder brother and master in that field.

NELSON SIZER.

Dr. Lyman Abbott was born in Roxbury, Mass., December 18, 1835. In 1853 he was graduated at the University of the City of New York, after which he studied law, and in 1856 entered into partnership with his brothers Benjamin V. and Austin. Finding the legal profession uncongenial, he studied theology with his uncle, the Rev. John S. C. Abbott, and in 1860 began his labors in the ministry. His first charge was at Terre Haute, Ind., where he remained until, in 1865, he was chosen secretary of the American Union (Freedmen's) Commission. This office called him to New York City, and occupied him until 1868. A year later he devoted himself especially to literary and journalistic work in connection with Harper's publications, but it was as editor of the *Christian Union* in after years that his name became familiar in religious literature. On the *Christian Union* he was associated with Henry Ward Beecher, and after that distinguished preacher's death he became chief editor, and later his successor in Plymouth Church. He is the author of several well-known religious works, and wields a very marked influence among the intellectual classes in the American church.

Dr. Abbott has given not a little attention to the study of the human mind, as his philosophical type of organization would incline him to do. Like the great man to whose place he was called after the former's death, he discusses the relations of man to his Creator in the light of his mental constitution, and employs the facts of science to illustrate his propositions. It may also be news to some of our readers to learn that he is the author of a small book devoted to the subject of human nature. An abstract of a sermon preached by Dr. Abbott a few months ago, and printed on the next page, aptly shows his familiarity with the subject, and indicates the power that such familiarity may impart to preaching.

## TURNING SIN INTO RIGHTEOUSNESS.*

"The writers of the Old Testament were spiritual geniuses. They were voices through which God spoke to the world. There is danger that we shall read the Bible too literally, because danger that we shall stop at the letter, and not get behind the letter to that which was in the thought of the writer; there is still further danger that we shall not get behind the thought of the writer to that which was in the thought of God; but there is no danger that we shall ever read the Bible promises as meaning more than they appear to mean. The danger of literalism is a danger of belittling, not of enlarging; danger that we shall halt at the word of the poet and not see the mind of the poet—still less the mind of God that lies back even of the mind of the poet.

"What is a sin? Not the deed that is done, not the outward thing, but the spirit and the motive that it springs out of. It is not the prinking before the glass that is sinful; it is the vanity that makes the little girl prink before the glass that is sinful. It is not the good dinner that is sinful; it is the gluttony that is sinful. It is not the energy and assiduity and skill in acquisition that is sinful; it is the covetousness that lies back of that and inspires it and makes it mean that is sinful. It is not what I have done that is sinful. It is I myself, it is that which is within me—that is the sin. And so the question in my soul and in your soul, I am sure, is this: How shall the evil in me be made good? Is there no way? We do not ordinarily think so. We say, Oh, if I could get rid of this vanity, of this pride, of this passion, of this ambition! But God says, I have something better for you; you are not to get rid of your vanity, your pride, your passion, your ambition; I am going to turn them into goodness for you; your sins, the things that are in you that you hate, they themselves are to be turned about, transformed, made powers for beneficence, made powers for glorification. There is not a faculty or power in man, no matter how high and noble it is, that may not drag him down. What a God-given faculty is that power of conscience that sets a standard to a man and brings him to it and holds him there! But how cruel it has been! It built the Inquisition and lighted the fires of persecution. What a magnificent faculty is religious faith, that lifts a man up toward heaven and brings him face to face with God! But if it were not for the power of faith there never would have been superstition in the world. How it has dragged men down! What a sublime and glorious faculty is hope! How it buoys men up and carries them through the storm! And yet you business men know that there is no more common cause of bankruptcy than too great hopefulness: men making promises that they never can fulfill, and have no good reason of being able to fulfill. Hope has ruined more men in business than any other faculty, I suppose.

"It is a good thing to have a good appetite; a good thing to have an enjoyment of the animal nature. God gave the animal nature to be enjoyed. The animal nature itself can be lifted up, transformed. You remember what Fowler said of Henry Ward Beecher—'He is a splendid animal.' If that had been all that could have been said of him, it would have been a very sorry compliment; but it was a very great testimony as far as it went. A man is a better man for being a splendid animal if he has a splendid soul to match, than if he is a poor animal. Acquisitiveness! The love of money is the root of all kinds of evil. Yes, but the love of money is the root of a great many kinds of good. The love of money sharpens the edge of the assassin's knife, incites

*Preached by Dr. Lyman Abbott at Plymouth Church, Brooklyn.

TEXT—Come now, and let us reason together, saith the Lord: Though your sins be as scarlet, they shall be as white as snow; though they be red like crimson, they shall be as wool.—Isaiah i., 18.

the burglar and the thief, has produced predatory warfare and murders without end, but the love of money has set the enginery of the world in motion. It has built railroads; it has operated factories; it has carried on commerce; it has built up a great material civilization. Pluck that acquisitiveness out of the human soul and what would become of all material prosperity?

"Pride—what a wall it is! But what an armor! what a protection! The Bible does not pluck pride out of men: no, it stimulates pride; it rouses men to a larger and a higher pride. It appeals to men who are proud in a low sphere, and calls upon them to be proud in a larger and higher sphere. You are sons of God, it says; you are kings and priests unto God: walk worthy of the vocation wherewith you are called. 'You are gods,' that is the language in the Bible. You are gods—that is the appeal which the Bible makes to pride, to self-esteem, in man. It transforms him with a larger and a diviner self-esteem. If ever a man was proud, it was Paul; if ever a man was self-contained, it was Paul; if ever a man walked in the strength of his own assured confidence in himself, it was Paul; so that when that light struck on Paul, and the voice spoke to him, he stood up unawed and replied, What do you want of me? When he started on his missionary tour, he says, I did not confer with any one. I did not ask any authority from apostle or any one else; I started off my own account. And that pride of Paul did not disappear when he was converted. Not at all. That same self-confidence remained with him, a new quality, a transformed quality. When the mob caught him in the Temple courts and beat him, and was about to destroy him, and he was rescued just as life was to have been taken from him, he stood on the tower stairs and asked leave: May I speak to the mob? There was the same strong, self-contained, heroic pride of character; and yet not the same, but that pride of character transformed and glorified.

"Courage! What is that? Analyze it and see. It is not all combativeness. It is not fighting for fighting's sake. No! No man ever yet had hero blood in him unless he had caution in him. The same thing that makes a man a coward makes him courageous. I think it was Wellington who, to one who boasted, 'I never knew fear,' replied, 'Then you never knew courage.' I remember sitting once on the porch of General Howard's house at West Point. A sham battle was being fought by the West Point cadets, and as we looked at it General Howard said, 'I can take no pleasure in that sight; I never see it that I do not shrink from it, that I do not think of the horrible scenes that I have seen on the battle field. The very thought he shrank from; and yet, when impelled by the high motives of love of country and love of liberty, he went into the battle. This it was that made him a hero. If he had no shrinking, he would not have been a hero.

"Approbativeness! a great vice and a great virtue. A man says, I am so weak, I care so much for the opinion of my fellow-men, I am so carried this way and that by public opinion, and change my complexion like the chameleon with every society I go into! Yes, that is a weakness; and yet that very weakness may be made an element of strength. For if a man does not care what people think, neither does he care for what they feel. The secret of sympathy is approbativeness. The secret of sympathy is the desire to be at one with others, and the sympathetic man is inspired by a great desire to be thought well of by his fellow-men. That is the starting-point; and that starting-point of approbativeness, that desire to be well thought of by others, may be so turned, so directed, so transformed, that it becomes a great power.

"And what is true of the individual character is true of past history. All a

man's past may be a motive power to aid him in his future. His blunders, his errors, his sins, as well as his successes and his victories, ought to add force to his life. Paul was educated to be a preacher of liberty because he was educated in the school of the Pharisees. Augustine was educated to be a preacher of purity because he was educated in the atmosphere of sensualism. Gough was educated to be an apostle of temperance because he was educated in the school of self-indulgence. Beecher was educated to be a preacher of the love of God because he was educated in a New England Puritan theology, which thought that God was wrath. We do not know truth until we have seen error; we do not know liberty until we have seen the prison; we do not know righteousness until we have wrestled with temptation. The whole progress of the human race has been just this; a progress up through temptation and wrestling into a higher life, into a larger life, into a virtue which is better than innocence, into strength that comes by temptation, that comes even by falling.

"This Sunday morning I urge you to give yourself to God because you have in you that which is undivine and not divine. You have no virtues to bring, you say. Well, bring your vices. You are proud. You are not proud enough! that is the trouble with you. Exalt your pride; realize that pride of circumstance and condition is a mean, low pride; that no pride is truly pride that does not lay hold on God himself and make you realize that you are his child. You care for what people think, and you wish you could get rid of approbativeness. You mistake. You do not care enough for what people think; nor for what the right people think. Care for what the best and noblest think! Care also for what God thinks; and when you have those two in one, you have approbativeness glorified. When your approbativeness makes you say, I want to stand well with the angels, I want to stand well with the pure, and the high, and the noble, I want to stand well with God himself, and then say I want to stand well with my neighbors—you have a sympathy that can take hold of man with this hand, and of God with that hand, and can bring man and God together. Or you are acquisitive. You are not to get rid of your acquisitiveness. You are only to make it rational, reasonable, intelligent. You are to acquire that you may use; you are to go on with all the power of industry, only so gathering that what you have gathered may serve you and your race and the world and God. You are passionate, quick, impulsive, easily given to wrath. What shall you do with it? Tame it, conquer it, harness it. Do not rake the fire out from under the boiler; keep the steam in the boiler. you want it—all you have. *Be angry! and sin not.* There is not a weakness that cannot be made a strength; there is not a poverty that cannot be made a wealth; there is not a hindrance that cannot be made an inspiration. The sun is kept alive by the matter which is cast into the sun but not destroyed, and out of that blazing orb, that gathers into itself all the matter that comes within its reach, there issue forth the rays of light that vivify and illumine the earth. God takes our very vices and out of them makes radiance and light and warmth-giving."

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IT is because so few have definite goals before them that so many fail; it is because so many aim at impossibilities that so few succeed; it is because there is too much wishing for success, with so little unremitted striving after it, that so many end with wishing; it is because there is too much eagerness for speedy triumph that so many end in defeat.

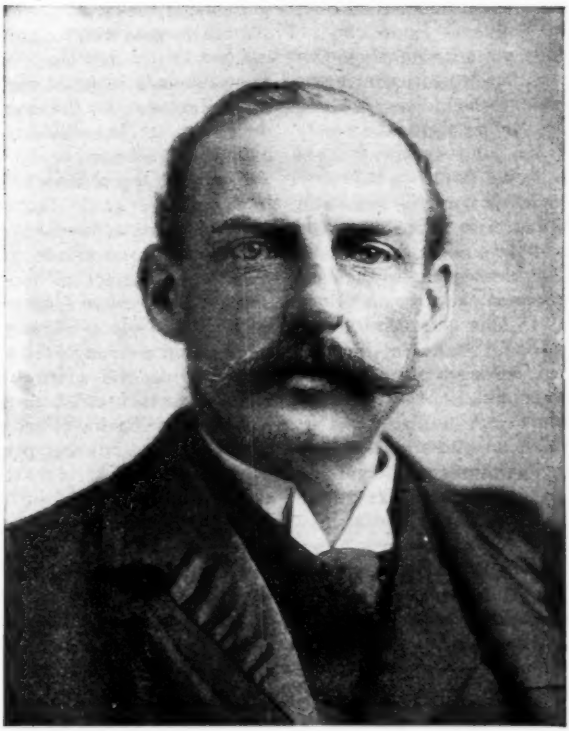
"REPROACHING ourselves or others for past mistakes is a useless cruelty. Lessons for wise well-doing in the future is the 'more excellent way.'"

## A PHRENOGRAPH OF FRANCIS MARION CRAWFORD.

FROM A PERSONAL EXAMINATION.

NATURE has been exceedingly kind to this gentleman in many ways. He is six feet and one inch in height, and weighs a hundred and seventy-five pounds. His flesh is as firm as that of a professional athlete, and he does not appear to carry an ounce of lymph or adipose tissue.

His movements, intonations, and glances all bespeak activity, energy, and industry. There is nothing negative or passive in any of the bodily contours, and the figure would delight a



FRANCIS MARION CRAWFORD.

He has a very soldierly bearing, but not of the sort which comes merely from military exercises or familiarity with scenes of bloodshed and battle. It is rather a native grace of manly motion which needs no drill, and the expression of an innate courage which not only smiles amid whistling bullets and bursting shells, but nerves the heart and hand for deeds of duty in all places and at all times.

sculptor as a model for masculine strength. The prominent nose which is almost Roman, also suggests great force. But when we closely inspect the other facial lineaments and the configuration of the brain, we discover a remarkable amount of femininity. Indeed, on the psychical plane he has a predominance

of womanly instincts and those rapid processes of ratiocination often erroneously called intuitions, together with certain actual susceptibilities to communications which enter at the elbows, so to speak, in the possession of which the gentler sex has always stood first.

Mr. Crawford's temperament, regarded from the anatomical point of view, would be called the mental motive, since the cerebral, muscular and osseous systems are in the ascendency. But as to the influence exerted by the fluid secretions, we may include in this instance a very strong infusion of the sanguine element, the indices of which are in the enormous chest, the ruddy complexion, the blue eyes and light brown hair.

In the general pose of the head and the cast of the features, especially in the prominence of the middle third of the face, are the marks of a superior ancestry; of progenitors who were ambitious and successful. There are no lines of fear; no traces of cunning, malice, envy, avarice, or cruelty such as are evolved from conditions of slavish toil, oppression and deprivation. This is an open countenance which seems to be a legacy from generations whose natures expanded under prosperity and who outgrew the scars acquired in the early struggle for existence.

From such a constitution we should expect reasonable enjoyment in the exercise of the feelings and sentiments, without great depth of passion or extravagance of emotion; and brilliancy, versatility, facility, practicality, and availability of talent rather than profound originality or predilection for purely abstract studies. Such a superb physical structure demands opportunities for direct and active communion with nature, while the eager intellectual powers impart a certain sympathy for sedentary pursuits and the artificialities of book lore. Thus there are here combined the elements of the traveler and the writer, in both of which capacities Mr. Crawford has become distinguished like Bayard Taylor, Elwin Arnold, and Lew Wallace, in several countries.

The circumference of his head is 22¾ inches, which, considering the height of the crown, indicates about the usual volume of brain possessed by men of eminence in literature and art, and in size is second only to such intellectual giants as Bismarck, Gladstone and Beecher. As to balance, it presents no more departures from perfect symmetry than is the rule with men and women of marked ability, and his peculiarities are favorable to his special work; the deficiences relating for the most part to the developments characteristic of the typical masculine brain.

From the top of the ear a horizontal line to the rear of the back head shows a very marked endowment of the feminine instinct to protect the young. This faculty is quite conspicuous in actors, poets, painters, and literary men as a class, the obvious reason for which is that they strongly resemble their mothers As the courier of woman's message to the world, or her normal mental working tools, are the sympathetic, imaginative and perceptive elements of the mind, rather than the passional or philosophical, it follows that the fine arts come especially within her province, and that men who inherit their mentality chiefly from the mother, will manifest not only the distinctively maternal phases of affection, but are likely also to be attracted to the domain of art in preference to commerce, philosophy, statecraft or war.

In the color and quality of his conjugal love, Mr. Crawford will also show the delicacy and tenderness characteristic of the feminine nature. However, as to Friendship, he is constructed on a principle which favors variety rather than unity, or diversion rather than concentration, so that as the brain centre relating to adhesiveness is of only average development, we may be sure that he will not require a par-

ticular set of individuals at his side on all occasions. Still, this will not prevent him from forming enduring alliances with congenial persons on other grounds than those of personal proximity.

The diameter of the head at Combativeness is not so great as we occasionally find in men who possess even less of this quality. But here the thoracic, muscular and sanguine temperamental elements all tend to create a surplus of vital force which finds an agreeable outlet in some kind of warfare, innocent or otherwise as the tastes or circumstances may determine. A strong will, with moderate sensibilities to fear, assist also in this case in producing a spirit of enterprise, so that the character is practically very courageous.

The height of the central top-head on a line with the ears is very considerable at Firmness, and in this combination it will be persevering energy rather than contrariness or obstinacy. Destructiveness is full, but not likely to assert itself spontaneously. Just below the vertex, in the median line, there is a defection at Continuity, so that while the active temperament and large Firmness insure great capacity for work, there will always be a dislike for monotony. Such a man will prefer speedy methods, and if his labors are frequently interrupted, he will not become confused. He will sometimes finish a task at a single sitting, however, simply in order to obtain his release the more quickly, and those who observe him may perhaps conclude that he works consecutively and patiently from first choice. Moderate Continuity renders the literary style crisp, terse, and clear, as may be observed in most French and American writers, and of which the subject of our present analysis affords a good example.

The head is much narrower a little above and forward of the ears at Acquisitiveness and Secretiveness than the temporal expansion shown in his portraits would suggest. He will seek money only for the comforts it procures, and unless there is a strong reason for concealment, he will deal openly and under his true colors. On this account, as a novelist he should excel in brilliant narration rather than in weaving a thick, somber veil of mystery.

Caution is only fairly developed, and the crown rises to a symmetrical but not conspicuous height at Approbativeness and Self Esteem. There is also a reasonable degree of Conscientiousness, but the combination leans more toward mercy than justice.

The coronal region is well arched at Veneration and Spirituality, which, in this temperament, will aid in the development of poetic sentiment, appreciation of the weird and romantic, and in other ways will color the thought without controlling it. Benevolence, Imitation, Mirthfulness, Ideality, Suavity, and Human Nature, or the sense of character, all contribute largely to produce the elevated sincipital region, the last named being probably the strongest of the group.

The upper forehead is very full in the centre at Comparison, which denotes fine analytical, critical and didactic powers; facility in the use of metaphors and other means of illustration, also nice discrimination in selecting words. But laterally from this mesial development, Causality is somewhat retiring. He can be philosophical if stimulated by external influences, but his voluntary impulse would be to gather, classify and chronicle facts rather than to trace their remote causal relations.

In the lower frontal convolutions, however, the brain is exceedingly active. The perceptives are nearly all large, Eventuality and Locality being perhaps the most influential. The width at the temples also shows music and superior mechanical ingenuity. The projection of the eyes beyond the line of the cheek bone is very marked, and perfectly agrees with his well-known phenomenal

memory of words, and fluency in both oral and chirographic expression.

On the whole, the forehead may lack the repose which belongs to such original authors as Goethe, Ruskin, or Herbert Spencer, but to illustrate the ideal high-class journalist or novelist, it would probably be impossible to find a better type.

EDGAR C. BEALL, M. D.

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Francis Marion Crawford is 38 years of age, and was born in Italy, at the Baths of Lucca. His father, who was a New Yorker by birth, and of Scotch-Irish descent, was a pupil and friend of Thorwaldsen, and a well-known sculptor. The mother of the novelist was one of the Wards of Rhode Island—an old and honored family, one of whom was Gen. Francis Marion, who was closely related to Charlotte Corday, and to whom Mr. Crawford owes his second Christian name. He is also a nephew of Julia Ward Howe.

Few men were ever educated under such a variety of circumstances. His first twelve years were spent chiefly in Rome; then he studied three years at Concord, N. H., returning to Rome to delve into mathematics. A little later he went to England and spent a year at Cambridge. Carlsruhe and German philosophy claimed his attention next, after which he returned once more to Italy to study Sanscrit. He also spent a good deal of time in India, principally as a journalist. But his career as a writer of fiction began in New York about eleven years ago.

His novels, of which Mr. Isaacs is doubtless the most popular, are published by Macmillan & Co. of this city, and are of especial value for the information they contain respecting life in foreign countries.

He is an accomplished linguist, the husband of a beautiful wife, and the father of four lovely children to whom he is much devoted. His home is in Sorrento on the bay of Naples.

## NERVOUS DISEASES NOT INCREASED BY CIVILIZATION IN SCIENCE.

DR. D. G. BRINTON, of whose authority as an Anthropologist there can be no doubt, remarks on this important topic: Among the errors which have been diligently disseminated by physicians, who lacked ethnological information, is that which claims that diseases of the nervous system, especially those of an hysterical character, have greatly increased with the development of civilization, and are most common in the races of highest culture. Both assertions are erroneous. Those intelligent travelers, who give the soundest information on this subject report that in uncultivated nations violent and epidemic nervous seizures are very common. Castren describes them among the Siberia tribes: An unexpected blow on the outside of a tent will throw its occupants into spasms. The early Jesuit missionaries paint extraordinary pictures of epidemic nervous maladies among the Troquois and Hurons. The Middle Ages witnessed scenes of this kind impossible to-day. In a late number of the *Journal de Medicine*, Paris, Dr. de la Tourette points out the frequency of true hysteria and hysterical seizures in the black race, among the Hottentots and the Caffirs of East Africa, and among the natives of Abyssinia and Madagascar. They present frequent cases of classical hysterical attack, and occasional epidemics of chorea-mania, affecting both sexes. A negress of the Soudan was lately a patient in the clinic of the celebrated Dr. Charcot in Paris, and displayed the symptoms characteristic of neurosis. Civilization, so far from increasing the class of maladies, is one of the most efficient agents in reducing them in number and severity. When it is freed from certain elements not essential to it, especially religious excitement and competitive anxieties, it acts decidedly as a preventive.

# TALENT AND CHARACTER

## THEIR STUDY AND CULTURE

### CHAPTER IV.

### THE SKULL AND ITS RELATION TO THE BRAIN.

Fig. 32. This skull is a companion piece for Fig. 26. It will be observed that the bones are lighter, less massive and the bones are thinner, lighter and of finer grain. And it is not so massive in the base where Combativeness and

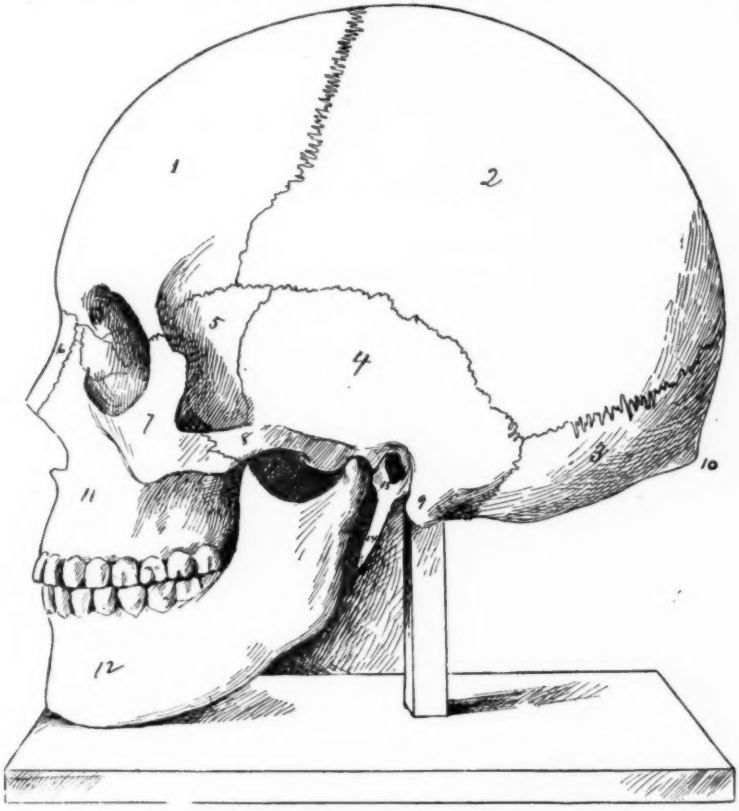


FIG. 32.—WELL BALANCED FEMALE SKULL

and strong. The nasal bone is not so high, the cheekbone, 7, is not so massive, and the mastoid, 9, is less developed, and the occipital spine, 10, is smaller, Destructiveness and the selfish propensities are developed. Having the skulls in our possession we study them at our leisure.

It will be noticed that this head has a beautifully rounded top, the region of the religious and moral sentiments is well developed. There is not so much Self-esteem as in Fig. 26. The sutures are very smoothly united, and there is less of ruggedness in its structure, especially in the cheekbone, 7. The different bones of the skull are numbered in this the same as in Fig. 26. In describing the male skull, Fig. 26, we mentioned the principle of bone development by radial fibres or spicula, as indicated at A and B on Fig. 26 to which we referred.

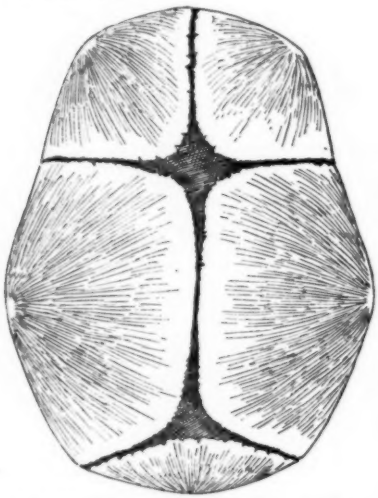

FIG. 33.—AN INFANT'S SKULL AT BIRTH.

Here the formation of the frontal, parietal and occipted bones is represented by radiating fibres. The central points where the bones commence to form are shown, which correspond to A and B in Fig. 26. The grain or fibre of the bone is seen to radiate from these centres till they reach corresponding fibres from the other bones. Between the frontal bones and also the parietal bones the sutures are distinctly seen. The edges of the bones approach but there is yet no locking together of the edges. The sutures are also seen along the top-head but they are not yet united; in fact, none of the sutures are united in the early years of life. In the centre of the top-head there is a black place like open water in a partly frozen pond, that is called the great fontanelle or fountain, so named from the pulsations which are perceptible like the rising of the water in a fountain. Four bones approach this point and do not yet cover the space. In infancy there are always two frontal bones; in adult life they are generally united by solid ossification, though we have several specimens of skulls in the office that are not ossified, they are merely closed up like the other sutures of the skull, and show two distinct frontal bones. The occipital bone, No. 3, it will be seen has its centre of ossification, the fibres running to meet the parietal bones. All anatomists understand that the dura mater, a tough skin (which when dried is very much like a dried bladder), encloses the brain and in position and function is very like the skin which encloses the egg before its shell is formed, since the bony material of the skull is developed out of the dura mater and formed on its surface as the eggshell is developed out of its skin. The skull is formed in patches in separate and distinct parts. There is evident wisdom in that method. At birth, as we have shown in this infantile skull, the bones are separate, and pressure upon the head might throw it into almost any form without straining or breaking the bone or without serious injury to the brain. The infant's head has a soft spot, a great fontanelle which sometimes lasts for twelve months before it is closed up; and there is another opening in the back head where the saggital suture unites with the lambdodal suture, and this is called the little fontanelle, because it is smaller than the one in the top head. The bones of the skull not being firmly united, a blow or a fall is a little like striking or dropping a paper parcel, the force of the

blow is not so severe as it would be if the skull were more solid in its development. Another important provision in the fact of the skull being composed of parts or sections, is, that a fracture occurring in one bone from a blow usually stops at the suture and the shock to the brain and skull would thus be much less than it would be if the skull were solid.

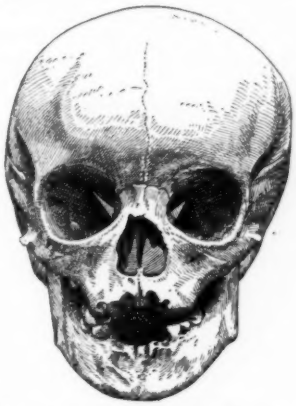

Fig 34 represents the skull of a child with the frontal suture not yet consolidated. Perhaps one adult skull in five hundred has the frontal suture well defined and capable of being separated like the other sutures. In old age the sutures in some cases are solidly united.

Fig. 35. We here present the bones of a skull which have been separated by artificial means. If a person will fill a well formed skull with beans or corn and lay it into a vessel of water so the corn or beans will become soaked and expanded, the joints of the skull will be opened as here represented. The frontal bone, 1, the parietal bone, 2, the occipital bone, 3, the temporal bone, 4, the nasal bone, 5, the malar bone, 6, the upper jaw bone, 7, the lachrymal bone, 8, and the under jaw bone, 9, can all be numbered as we have numbered them on Fig. 26. But the numbers are mere guides, not a law. The sutures between the bones are seen wide open and their serrated edges like saw teeth aid in constituting the firm joints represented. Now all these bones in a child's head

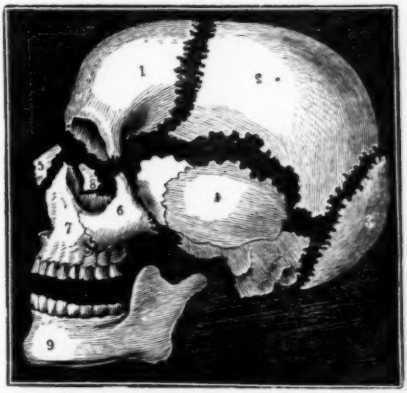


FIG. 35.—BONES OF SKULL SEPARATED.

are available to growth. An infant's jaw is not large enough to serve the processes of later life; and the first teeth are small. The jaw grows and new teeth come, and the whole business is enlarged.

Imagine then, these different bones being like the scales of an aligator with separating joints, and the bones growing as an aligator's scales grow. It is the easiest possible thing to keep the brain covered, shielded and protected. People forget that the skull is not a prison house for the brain, but a protection. Human clothes do not grow much, we have got to get new ones, but the skin, however, manages to grow as fat as the boy does; that is alive; clothing is an outward garment; but the skull and the scalp have living tissues that expand and grow as the increase of brain requires.

Fig. 36 is a front view of the skull with the bones all separated. One is the frontal, 2 is the parietal, 3 the malar, 4 the nasal, 5 the superior maxillary or upper jaw, 6, the vomer which divides the nasal cavity, and 7 the under jaw. These bones do not look as if they were intended to imprison anything, but since they are all fed by the same heart's

blood and nutrition they grow, they live and while they protect they make room for its occupant.

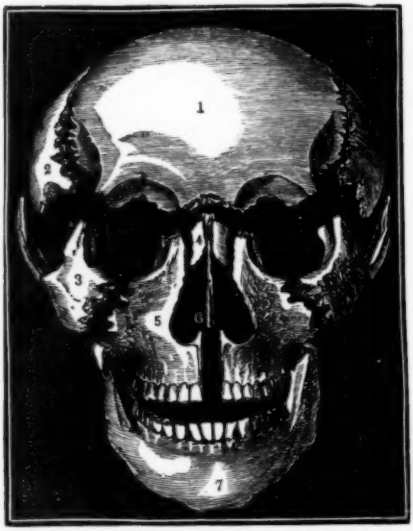


FIG. 36.—FRONT VIEW OF SKULL.

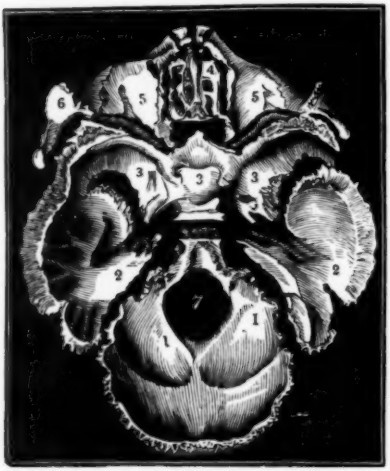


Fig. 37 is a bottom view of the skull also separated. 1, is the occipital bone, 2, 2, the tempral bones. 3, 3, the sphenoid bones, 4, the ethmoid bone. 5, 5, the malar bones, 6, the zygomatic arch, and 7 shows the opening in the skull called the foramen magnum, meaning the great hole through which the spinal cord emerges from the cranium. In the edges of these bones of the skull can be seen a rough serrated method of uniting the bones.

People often ask how it is that the brain can develop, being a soft delicate mass, inside of such a bony box as a skull. It is not a bony box strictly speaking. When the brain is being developed rapidly in childhood and youth the sutures are not united and the growth can take place at the sutures and easily meet the necessary expansion of the brain. But people forget that the bone is live matter, that it receives nutrition by the blood just as the muscle does. A child's thigh bone will be six inches long, later on it is 18 inches long; it is not stretched as one would stretch an elastic piece of rubber, but it is alive and grows. The finger nails grow larger every year, they are growing all the time during life. The method of the growth of the skull is supposed to be this, if the material of which it is composed is required to be removed to make room for the growing brain, the bony material is dissolved, absorbed, carried into general circulation and new bony matter is formed a little further off, so as not to press upon the brain and hinder its growth

Has the reader ever peeled the bark off a tree in the month of May, bark half an inch thick and hard enough to crack walnuts with? Every Spring the bark of the tree increases in size, not by wedge and screw pressure, but, the sap flowing between the bark and wood the bark grows larger and leaves a space between itself and last year's growth of wood, and a delicate creamy substance is deposited between that bark and the old wood to form the new grain of timber. When a birch tree is peeled, and we know of no bark that is harder than that, inside of it there is a creamy substance of half formed timber, which

boys like to scrape off and eat as birch, it is very delicate. The ross or outer part of the bark of trees becomes cracked lengthwise, it is the outside shell, it is dead, it is a mere coating to protect it against the weather; but the inner part of the bark, the living part, grows in Spring and occupies more room and cracks the ross,

The analogy of the growth of the skull and other bone is like that of the growth of the shell of the turtle or shell fish. For instance, a clam shell is harder than the human skull and quite as thick, even thicker, and if a person will catch two clams of the same bigness, we will say that they are two inches in diameter, the shell will be a quarter of an inch thick and harder than a matured human shull, If one of these clams shall be killed, that is to say, opened and the shell put into a safe place and locked up, and the living one planted inside of sticks driven into the ground under water from which it cannot escape, if it be left there, for say, three years then taken and opened and killed, it will be found that the shell of the clam that was locked up three years ago will go right inside of his shell and shut up nicely. Now every part of that shell has been reorganized over and over; it has been solid all the time, and yet every particle of it has been dissolved obsorbed and removed entirely out of its place, even the hinge has been reorganized; now it will contain the other shell bodily. But the clam did not elbow its way, it did not press against the shell, it did not force its expansion. The shell grew and made room for its occupant and was, in fact, a living part of the occupant. How does the horn of the ox increase? It is hard and thick, but it grows fast. How does the hoof of the horse become larger from a colt all the way up? It does not split, it does not stretch, but it grows as the bark of the tree grows. The rapidity with which new bone grows when it has been injured or fractured is remarkable.

A surgeon told me of a new thigh bone being formed in a very few weeks. The thigh bone became diseased and an incision was made in the thigh and the periosteum which covers the bone was opened by a slit, expanded and the diseased bony matter for a distance of eight inches was taken out; and then new bony matter was deposited by the process of nature on the inside of the periosteum, as skull matter is deposited on the surface of the dura mater. The thigh bone in six weeks was sufficiently repaired or recovered to enable the man to walk.

I had a cow that would jump anything, but the moon, in the shape of a fence, and in one of her leaps she broke a rib and the ends slipped by about three quarters of an inch; and years afterward when she was fattened and killed the piece of the carcass that enclosed this broken rib was corned, and when it was boiled I carved it and there I found the spot where this rib had been broken and slipped by; and Nature had put a band of bone right around the lapped ends of it and also a support at the end of each piece so as to make it strong; and that mended bone we kept for years as a curiosity. Nature repairs its damages when it can. Remember that in the blood there is bone material in the form of phosphate of lime in solution, and wherever bone material requires to be nourished the blood has the material with which to do it; and it is carried on silently, persistently and successfully in the skull as well as in every other bone in the skeleton.

In cases of hydrocephalus, the skull grows and makes room for the accumulating water until the skull will contain as many as ten pints of water besides the brain. If the skull bone thus retires and grows so as to cover one and a quarter gallons of water, it certainly does not imprison and compress the brain. The blood vessels of the dura mater leave channels on the inside of every skull like the beds of rivers and

their smaller branches, even the fluid blood does not permit the growing skull bone to prevent its free courses. In fact, the skull bone itself has numerous blood vessels between its two plates to supply the means of its growth and change in size and form.

If the brain requires more room in one particular part of an adult's head than in other parts the bone is rendered thinner there and more plainly develops on the outside; so one part of the skull can thus be increased in size. If a person is very much excited in respect to any faculty and not so much in respect to others, in such a case the skull has been known to become exceedingly thin over the parts exercised, and after death by putting a light into the skull at the foramen magnum to illuminate the inside of the skull this thinness of the skull is vividly seen. Persons sometimes are troubled about something, for instance, the subject of devotion, religion, or are excited in regard to property, mechannism or music, and those portions of the skull over the extra excited organs will become exceedingly thin. Sometimes a faculty may be considerably more active and vigorous and the organ larger than the external examination would reveal. When the exercise and activity are equal in all parts of the brain the development will be uniform. A physician is sometimes confronted by incidents in which development or absorption may have occurred beyond the reach of his diagnosis.

In the next chapter we shall present pictures of some skulls in our possession on which one of our students, Robt. I. Brown, experimented by lighting the interior with electricity in a dark room then photographing the illuminated skull. It was a pretty slow, fatiguing process, there was so little light to make the pictures by; but he made some very nice specimens, showing the sections of the head where the brain was most active. We could put the light into the skulls in a dark room and they showed bright places. But photographs of skulls had probably never been taken in that way before. We often pick up skulls and describe the leading characteristics by the fact of the extra thinness of the different parts of it.

In old age the whole skull sometimes becomes very thin because the brain is active and bone making matter is not sufficiently abundant in their food to supply bone support, and the skull is partially absorbed to sustain the working bones of the system. In other old persons the brain is not active and shrinks and there being abundant bone material in the food, the skull becomes thickened to supply or fill the space caused by retirement of the brain, some children are born with poorly formed bones because the mothers have lived on fine flour, butter, sugar, which are mainly devoid of phosphate of lime, and the children are rickety, bow legged or hunchbacked, and the skull is a long time in closing the sutures and fontanelles, being delicate they are ignorantly fed on starchy pap, butter and sugar and they become permanently invalid, or die in childhood. Oatmeal, the entire wheat and milk, with an absence of butter and sugar will give bone and muscle to growing children and make them stalwart and robust. In Kentucky and Tennessee, in the "blue grass region," the soil reeks with lime and every blade of grass and every other food product of the soil is laden with bone making material, and the cattle, horses and people are bony, tall and strong. In regions where lime is wanting, or has become exhausted by cropping, the people and cattle are less tall, bony and strong; and to raise wheat all the land must be top dressed with lime to give the straw strength to stand up, but lime being a dear dressing for the soil, such economy is exercised in its use that the grain does not get lime enough to supply sufficient bone material to build up the frame work of the eater.

## SKETCHES OF PHRENOLOGICAL BIOGRAPHY.

### SARAH JANE HALE.

IT is to Mrs. Hale that the writer of these sketches was indebted for her start in Phrenology. In the *Ladies' Magazine and Literary Gazette*, published in Boston, which that distinguished lady edited, appeared in 1832 a succinct article from her pen on Phrenology, giving the principles of the science, the names of the organs and their definitions and functions. Mrs. Hale was a personal friend of Spurzheim and did all she could to aid him in his work in Boston, where she then resided. It was to her that Spurzheim said, "It should be woman's work to introduce Phrenology, and give it a start in America; that through her influence it should be introduced into families and schools, and thus get at a foundation that could not be reached in any other way." In a conversation with Mrs. Hale on female education, Spurzheim remarked, "Excepting Christianity, Phrenology will do more to elevate woman than any other system has ever done. It gives her a participation in the labors of mind. She must understand its principles and practice them in the nursery, and her influence it is which must mold the minds of her children, and thus improve the world. If I possess any excellence of character I owe it all to my early training. In the first place, my mother gave me a good physical education; then she cultivated my moral feelings, and she taught me to *think*. I owe everything to my mother."

Mrs. Hale was born in 1788. In 1837 she became associated with Mr. Godey in editing *Godey's Magazine*, and was identified with it and its interests for forty-one years. She was a woman of great and versatile talent, and wrote and published many books of prose and verse, which were very popular in the early days of American literature. She was in the advance in educational matters, an earnest advocate for woman's elevation and education, and believed it was woman's duty to use the powers that the Creator had given her, and for which she would be called to give an account in the great day. She was always a warm advocate of Phrenology and a friend to its promoters. Her death (in 1879, even then at so advanced an age in literary harness) was a loss to the cause of advanced mental science.

### W. C. HARDING.

About fifty years ago Mr. Harding was known as a high-minded and talented lecturer on Phrenology in the Eastern States. His lectures, delivered in an easy and fluent manner, commanded attention and respect, were well attended, and listened to with deep interest because they manifested considerable study and acquaintance with his subject.

His favorite themes were the utility or the practical uses of Phrenology, and education, as directed by, and based upon, the phrenological developments.

### THE REV. B. F. HATCH.

Mr. Hatch was a minister of the Christian Gospel and also a declared phrenologist. In his time it required no little courage for a clergyman to declare his belief in phrenological doctrine and still more to preach that belief to the public, as he did in 1848. Notwithstanding bitter and unrelenting opposition from the clergy he continued his lectures, his desire being to advance true piety, to incite mankind to place a higher estimate on virtue and a virtuous life, to remove sectarian oppositions, and as far as possible to suppress discord among men.

### THE REV. LUCIUS HOLMES.

In the early days of Phrenology in America, when men of prominence often employed intrigue and ridicule in their endeavors through the religious press to destroy the influence of those who were its friends, there were a few clergymen who had the courage of their convictions and who dared to speak their mind in its favor. They could see that it was

destined to be of great benefit to the world and were willing to face obloquy, ridicule and opposition rather than deny what they believed to be true.

Among these earnest men was the Rev. Lucius Holmes, who for many years has been an advocate and promoter of the science. He has preached it from the pulpit, published it through the press, taught it to his children and made disciples of it among influential men. Without fear and asking no favors he has done what he could, and should be recognized in these sketches as one of its friends, true and reliable.

Mr. Holmes was born in Thompson, Conn., November 9, 1822. When 17 years of age, he taught school in his own district and in the following year taught in the public school at Putnam, Conn. While in this town a man, who said he was of German extraction, applied for the use of the school-house in which to give a lecture on Astronomy and Phrenology, at the same time telling Mr. Holmes confidentially that the first part of the lecture was partly to secure toleration for the second part. The lecture was given in an interesting and fluent manner. He examined the head of Mr. Holmes and by the general correctness of the examination impressed him with the truth of the science. A few years later Mr. Holmes became a member of the Fruit Hill Classical Institute, near Providence, R. I., and preached once a Sabbath, to a church near the Institute. At this time his mind became agitated with doubts and queries on religious subjects, when it occurred to him that if Phrenology were true, it might aid him in settling his mind on some points. Having access to the library in the Atheneum he secured the works of Gall and Spurzheim and committed the outlines of the science to memory. He then began quietly to observe according to the teachings of Phrenology, and wherever he went carefully noted the aspects of temperament, configuration and size of cranium of both men and animals. The result was he became convinced that phrenology was essentially true and ever afterward remained firm in that conviction. The study of this science interested and soothed him and he found he could make direct application of it to theology.

The time came, over forty years ago, when he ventured to go out and lecture on Phrenology. He obtained portraits and specimens in comparative Phrenology with which to illustrate his lectures. He received high commendation for his manner of treating the science. He possessed two important requisites for a public lecturer—a deep interest and a thorough knowledge of his subject. His phrenological developments, large Causality, Language, Ideality, Mirthfulness and moral organs, together with an active temperament, qualifed him to be a superior lecturer, especially upon the moral and philanthropic department of the science. Finally more settled duties crowded upon him, and he was obliged to abandon his lecturing, but he still believes in the noble work, and wishes there were more engaged in teaching it and kindred sciences.

To do good has always been the great object of his life.

DR. HOYT.

When George Combe visited Albany in 1840 he dissected a brain in the presence of ten well-known gentlemen and in accordance with the principles of the science.

Dr. Hoyt had prepared this brain by keeping it in alcohol for some four or five months, and for the purpose of seeing for himself its true anatomical structure as first shown by Drs. Gall and Spurzheim in their new mode of dissecting the brain. This gentleman left home in severe winter weather, and traveled 150 miles to see Mr. Combe unfold the nervous tissues of the mental organs. Much praise is due to Dr. Hoyt for the pains he took in preparing a brain and going such a distance in a day when a journey of a hundred miles

was attended with little comfort or convenience to witness an examination of its structure with particular reference to its functions.

By means of a skillful manœuvre, Dr. Hoyt secured a lecture from Mr. Combe before the Phrenological Society in Syracuse. When the great Scotsman had finished his lectures in New York, Philadelphia, Boston, Baltimore and Washington in 1839 he, with his wife, took a tour through some of the Northern States, simply to see the country and to recuperate his health. He gives the following account of how he was entrapped into giving a lecture in the Presbyterian Church before the Phrenological Society of Syracuse:

"I had positively declined to deliver a lecture, or to make any public exhibition, but agreed to take a part, incidentally, in the proceedings of any meeting of the Phrenological Society. I insisted that the public notices of the meeting should be so expressed, and they were so.

"On entering the church, which was filled, the president of the society led me at once to the pulpit, and announced that I would address the audience. I told him that he must begin with the ordinary business of the society. He then said that they had no business that evening, except to hear me. I was thus unexpectedly forced to extemporize without either a theme or a preparation. I spoke for an hour and twenty minutes. The people listened, apparently much satisfied."

Dr. Hoyt thus gratified his strong desire to hear Mr. Combe lecture in Syracuse and perhaps at the same time his organs of Mirthfulness.

CHARLOTTE FOWLER WELLS.

## SOME SPECIAL TALENTS.

ILLUSTRATED.

ONE of our subscribers wishes to know what organs should be well developed in the mechanic, the mathematican, the journalist, the scientist, and the historian.

As a satisfactory answer can hardly be given on the page usually devoted to such questions, we prefer to enlarge a little upon the subject and introduce a few portraits.

In all of these five professions or vocations, the perceptives should be large, giving fullness to the lower forehead, well defined eyebrows, length of line from the ear to the root of the nose, width of the forehead through the temples, and considerable distance between the eyes and eyebrows But the temperaments and combinations of the emotional faculties should be quite different.

Beginning with the mechanic, in addition to the general development of the perceptives, there should be especially large Constructiveness to insure pleasure in building, making, or putting together *per se;* that is, without regard to the ultimate use of the thing constructed. The temperament should be the motive, or a combination of the motive and vital. This will be favorable to the practical cast of mind, common sense and physical strength which are usually needed by the mechanic. Besides, this constitution is not likely to be handicapped by imagination or any of the sentiments located in the superior portions of the brain which would render a matter-of-fact, monotonous pursuit uncongenial. The strong, rugged face of Roebling, the celebrated engineer and bridge builder, Fig. 1, shows the motive temperament and perceptives in a marked degree, although he had many other qualities which enabled him to use his mechanical talents on a very large scale.

In the mathematican, the organization should be cool and comparatively free from sentiment, but of a somewhat finer fibre than the mere mechanic,

with moderate Combativeness, Destructiveness, Self Esteem, etc. Calculation is the primary faculty required. It is indicated by the extent of the forehead laterally from the external angle of the eye as in the accompanying portrait of the well-known astronomer, Dr. Hind, Fig. 2. In the higher branches

FIG. 1. ROEBLING.

of mathematics, however, the other perceptives, together with Comparison and Causality are much more important than Calculation.

The journalist needs a good deal of responsiveness, activity and versatility. He must be many sided. Like a weather vane, he must answer to every breeze. He must observe and note intelligently the happenings of the whole world, hence he would be embarrassed by large Continuity. He must have no hobbies. He needs the mental temperament, with considerable of the sanguine and lymphatic. A sense of human nature is also very important to give a knowledge of motives, and a well rounded back head would confer sympathy with the springs of human conduct. The perceptives are necessary to ferret out information, and the temperamental combination mentioned above would produce literary taste. Large Language is also of value, but neither so indispensable nor frequently found among this class as one might suppose. In Henry J. Raymond, Fig. 3, who was an eminent New York journalist, the mental and vital temperaments are very pronounced.

In the typical scientist, to illustrate which we have selected Professor Agassiz, the perceptives are still as prominent as in the preceding examples, but the type of organization is higher. The features betoken a loftier ambition, more definiteness of aim, more strength of purpose, and a much superior degree of precision and accuracy of judgment. To insure these qualities, the bilious phase of the mental temperament should take the place of the sanguine element required by the journalist. The basis of the talent for science is the power to observe correctly, and to discriminate coolly and without prejudice. Thus, the more logical the mind, the better

FIG. 2. DR. HIND.

will be the success attained in the acquisition and classification of knowledge.

The foregoing remarks apply especially to science considered broadly and generally. But the specific departments or branches require particular develop-

FIG. 3. RAYMOND.

ments not only of certain perceptives, but also of the affective or emotional faculties. For example, large Philoprogenitiveness is an element in the taste for entomology, or any other branch of natural history. The bilious temperament is more favorable to pathology and medical studies in general than the sanguine, while Comparison is very important to the chemist, and so on indefinitely.

In the historian, Eventuality may be said to constitute the basic or central element of talent. This is the sense of

FIG. 4. AGASSIZ.

action, or whatever is expressed by the verb. The scope and significance of its manifestation, however, will depend upon the combination of the other mental powers. In a narrow, undeveloped mind, this faculty may be satisfied merely with the description of a fishing expedition, a tiger hunt, or the adventures of some such hero as Daniel Boone or Buffalo Bill. But in a highly cultivated man like George Bancroft, Fig. 5, the events considered will be of importance and dignity, such as the negotiations and wars of nations, or the personal achievements of celebrated individuals. On the higher plane, history thus calls for one of the noblest uses to which the perceptives can be applied.

FIG. 5. BANCROFT.

In very philosophical writers like Gibbon, the purely historical idea or narrative is almost obscured by the reflections and deductions introduced. In the face of Bancroft, a greater degree of refinement may be observed than is shown in either of the preceding portraits, also larger Language, which perfectly accords with the more purely literary and philosophical character of his work.

To recapitulate, the mechanic needs Constructiveness, Size and Weight. The mathematician should perceive proportions and relations. The journalist requires the convex forehead. The scientist should have a predominance of Individuality which produces a wide glabella, or space between the eyebrows; and the historian should possess Eventuality combined with Language and superior moral faculties. E. C. B.

## PHYSIOLOGY VERSUS PHRENOLOGY.

FOR half a century or more it has been fashionable for some physiologists as well as many other persons to improve every opportunity to express an opinion adverse to phrenology. We have been assured that in science there is no "authority," but the similarity of criticisms from the young and inexperienced, as well as from older orators and writers, seems to indicate that human nature is the same with students of physiology as with those who study theology.

In the medical colleges of Philadelphia such statements as the following have been made:

1. "The phrenological description of the function of the brain is not true."—(Prof. Betts)

2. "The phrenologist has some foundation for his opinion, but, I think, when he cuts the brain up into 'organs' he is getting beyond his depth."—(Prof. A. R. Thomas.)

3. "The phrenologist thinks to discover talent from the head, but the skull does not conform to the brain, and, therefore, the form of the brain cannot be known during life."—(Med. Chirurg Coll, 1889.)

4. "The so-called discoveries of Dr. Gall may be true, but I do not think they are."—(Prof. Dunglison.)

5. "If there is any truth in Phrenology it must be a one-sided subject, for only one half of the brain can be examined."

I have considered the *pros* and *cons* of the subject for many years, and think that the discrepancies between them can easily be reconciled, except that such a remark as No. 1 being a mere assertion it is, in its nature, unanswerable. There appears to be an opinion entertained extensively, that a very minute surface of the head is taken to be significant of character by the phrenologists, whereas there must be a sufficient development, or deficiency, of brain to affect the general form of the head. It is this misunderstanding that accounts for the erroneous statement that the head is not formed by the brain.

Perhaps the most serious misunderstanding arises from confounding the sphere of Phrenology and the character of its evidence with those of its kindred science, Physiology. They are as intimate as two cog-wheels that gear into each other, and as distinct. Phrenology is based upon the facts that the brain sustains the mental action, that various portions have different functions, and that, therefore, the form of the head will represent the natural bias.

It is not necessary to Phrenology to know what is the function of any particular convolution; nor does it matter that there are convolutions that do not approach the surface, whether they are at the base of the brain or in the longitudinal fissure. It is sufficient to know that as the brain fills the skull there can be no brain development without a corresponding enlargement of the head. As "like causes produce like effects," the development of brain on the longitudinal fissure in both hemispheres will always increase the width of the top head, or its elevation, as the case may be; and it may be an interesting question to the physiologist, or to the mathematician to discover which; while the phrenologist wishes simply to know what mental faculty is affected by width or height of head. The difficulty arising from the frontal sinus, or the temporal muscles, is not as great as some may suppose, and at any rate it would be very absurd to offer a mere *difficulty* as an *objection*.

As to the term "organ" made use of by phrenologists, it is a technical term of great convenience, and it is a cause of surprise that any intelligent man should object to it, or charge Drs. Gall, Spurzheim, Caldwell, Rush or Morton with "Getting beyond their depth" in making use of it. No phrenologist, so

far as I know, has any idea of a perceptible anatomical division to correspond thereto. It seems highly probable that the actual division of functions is far more minute than has been represented, and that in what is called an "organ" are a vast number of cells with slightly differing functions constituting a group of sufficient bulk to be observed, and exerting an influence upon character that, in well marked cases especially, can be appreciated.

What about the so-called "New Phrenology," and does it agree or conflict with phrenology? Is it destined to supersede the method and opinions of Drs. Gall and Spurzheim?

It appears to me that to call the knowledge of the brain acquired by galvanizing certain portions, and thereby producing varying muscular motions, phrenology, is degrading both to phrenology, which it has not as yet developed, and to physiology, to which it has made its contribution. But were we to institute a comparison between the work of physiologists as described by Dr. David Ferrier, there would appear to be this degree of harmony, viz: that certain muscular movements have a resemblance to the characteristic manifestations of the phrenological organs. The electrical irritation of the postero-parietal lobule produces an "advance of the opposite hind limb, as in walking." A phrenological sign of great Self-esteem, which is located very near and a little above this centre, is to carry the head well back and to walk as if marching, lifting the feet high and taking long steps.

Another centre is described as lying "on the ascending frontal convolution, at its junction with the superior frontal, gives extension forward of the opposite arm and hand, as if to reach, or touch, something in front." Perhaps, as Longfellow says of the skeleton in armor, it is "Stretched as if asking alms." This location is near the organ of Benevolence, and has a sign, not so sharply marked, as the preceding, yet is unlike it in its strutting carriage.* Another "Situated at the inferior extremity of the ascending frontal on a level with the posterior termination of the third frontal convolution opening of the mouth, with protrusion and retraction of the tongue." These centres are very near the location of alimentiveness, and the muscular movements resemble, to an exaggerated degree, the movements in eating.

Dr. Gall's attention was first called to the study of the function of the brain by observing that his fellow students who had very prominent eyes, had superior memory of words. Some physiologists have located the centre for articulate speech near the Island of Reil, which might be expected to contract the apex of the orbit and cause the eye to protrude.

Those physiologists who hope to develop a system of Phrenology that shall attain to anything like completeness, without resorting to the methods for evidence now practiced by phrenologists must be of a very sanguine temperament, for at present there is in their experiments scarcely a reliable fact bearing directly on the mental function, and there is little or nothing that is significant through the aid of muscular motion or any other physiological manifestation. It is indeed through the aid that is derived from Phrenology that any of the modern physiological experiments have become suggestive.

Another cause for doubt concerning the truth of Phrenology is in the neces-

* We do not infer that the author regards the muscular attitude, contraction or contracture observed by the experimentalist or clinician as being always that which activity of Self-esteem or Benevolence would suggest; that, on the contrary, the muscular manifestations may be such as activity of other phrenological organs than those he has named could give rise to, or it might be of a nature really or seemingly independent of psychic influence.

sarily great complication of its evidence, which is cumulative, and rarely ever directly demonstrative.

The old maxim, "Half the truth is a whole lie," is particularly applicable to this subject. If the portions of brain called "organs" acted separately the evidence might be more direct, but the rule is in healthy brains that the activity is much extended, and "motives mix" to such an extent that only in extreme cases do we trace the individual action of an "organ."

Again, the quality of the brain varies to an infinite degree, and superiority in quality favors the higher faculties more than the propensities. Two factors form character, and only one of them is physical in its nature, and treated as belonging legitimately to Phrenology.

Such, it appears to me, are the most obvious scientific causes for any misunderstanding of so important a subject, but, besides, there are others scarcely less potent, arising from the competitive state of society, the necessity of doing that which will produce some immediate reward, in money or fame, the degree of general elevation, the disinclination to be subjected to criticism, etc.

When a man who has had no education in science objects to Phrenology, because he has known two persons of heads of the same form—as he thinks—but with very unlike characters, it is no matter for surprise, although his objection amounts to this: "If there is any truth in Phrenology then there is nothing in education. Heredity must be everything and environments nothing." From a physiologist who has studied the composition and structure of the brain, and is aware of its infinite variety in these respects, we could not anticipate such an objection, nor should we expect a thoughtful physician who has made a study of nervous diseases, and of nervous influences in all diseases, to be hasty in pronouncing a verdict against Phrenology until he had given it a very careful study, and I have never known one person to do so after anything like the attention which the subject demands.

J. L. CAPEN, M. D.

## GREAT BRITAIN'S WELCOME TO MISS WILLARD.

BY LADY HENRY SOMERSET.

EDITOR OF THE PHRENOLOGICAL JOURNAL.

*Dear Sir:* Feeling assured that your patriotic desire to acquaint the readers of your magazine with the success of their distinguished country-woman in the land of her forefathers will make my letter welcome, I am sending you some account herewith of the meetings held in honor of Miss Willard's visit to England, from which great good is resulting to our common cause.

Believe me, yours sincerely,

ISABEL SOMERSET.

Eastnor Castle, Feb. 6, 1893.

REMARKABLE as has been the power of our transatlantic friends to attract immense audiences and awaken British enthusiasm, none perhaps, John B. Gough and Dwight L. Moody not excepted, have evoked more universal interest or received a greater ovation than has Miss Frances E. Willard during her three months' stay in England. In this age of great convenings, it is not often that a single meeting marks an epoch, even though it be in the interest of a reform that has now forged its way to the front in the politics of England's regnant party, and, *mirabile dictu*, finds a place in the Queen's speech to Parliament. This is a statement noteworthy indeed, but it is true of the national welcome, for it was nothing less, accorded to America's White Ribbon leader at the recent great meeting in Exeter Hall.

There is perhaps no better gauge of the state of public sentiment towards a cause or an individual than the attitude of an Exeter Hall audience. This famous auditorium has been so long the battle-ground of all religious movements and but to convene fifty distinct lines of religious, philanthropic and reformatory work is something which, so far as I know, has never before occurred in the greatest metropolis of the world.

On the huge platform were seated men

FRANCES E. WILLARD AND LADY SOMERSET.

reforms that to the accustomed eyes of its habitues the unprecedented character of that assembly was a marvel. Even in the city of London it is not difficult to rally the adherents of a single reform, and women whose names are household words throughout the English-speaking race, members of Parliament, dignitaries of the Church, and ladies of society, side by side with the leaders of

the labor movement and the Salvation Army. A delegation appointed from the Methodist Church, the Baptist, the Congregational, the Society of Friends, elbowed Canons of the Established Church, and temperance leaders of the Catholic hierarchy; while the chief Jewish Rabbi sent a congratulatory letter and signed the address of welcome which was also attested by three hundred local Unions of the British Women's Temperance Association.

Among the many societies represented on the platform were: the World's Women's Christian Temperance Union, British Women's Temperance Association, United Kingdom Alliance, Young Abstainers' Union, Independent Order of Good Templars, Independent Order of the Rechabites, Anti Opium League, Women's Anti-Opium Emergency League, Church of England Temperance Society, Young Men's Christian Association, Band of Mercy, Salvation Army, International Christian Police Association, West London Wesleyan Mission, Peace Society, Vegetarian Society, a deputation from the Wesleyan Church, Baptist Total Abstinence Society, Congregational Total Abstinence Society, Women's Liberal Federation, National Union of Women Workers, Prison Gate Mission, Friends' Temperance Union, Presbyterian Temperance Union, Catholic Total Abstinence League of the Cross, National Temperance Federation, Londan Temperance Hospital Board, Railway Temperance Union, Templar and Temperance Orphanage Board, English Sunday Closing Association, East London Mission Institute, Working Women's Teetotal League, Butchers' Total Abstinence Society, Bakers' Total Abstinence Society, General Post Office Total Abstinence Society, Women's Trades Union Association.

The speakers, twelve in number, were each equal to filling Exeter Hall by the strength of individual reputation; but they gladly limited their speeches to five minutes each, rejoicing to be among those who did honor to the distinguished guest whom the audience had assembled to greet in number so large that the tickets could have been sold twice over, and some fortunate possessors more sordid than enthusiastic, were disposing of them at three times their original value, at the entrance, where they were eagerly purchased, even for the overflow meeting which had speedily to be organized.

Nothing could exceed the enthusiasm with which the speaker of the evening was greeted. The vast audience rose with a cheer on their lips, and, waving white handkerchiefs, for several minutes the expression of their admiration seemed as if it would never subside. A thrill of pleasure comes to our hearts when one is thus recognized who has toiled so long and patiently for others' weal, for it is good indeed, to pour out the fragrance of our welcome, affection and praise, and place our tribute in the warm clasp, of *living* hands rather than lay it on the cold marble of the tomb.

After such a greeting, it was not an easy task to organize a demonstration worthy to be compared with that of Exeter Hall; but the United Kingdom Alliance, the strongest temperance society in Great Britain, proved equal to the undertaking. Five thousand persons assembled on consecutive evenings in the great Free Trade Hall in Manchester—the second city in England—and the headquarters of the Alliance. Canon Wilberforce and Sir Wilfred Lawson were the chairmen. Testimonials were presented by the Alliance, and other temperance societies, and the entire audience rose to receive Miss Willard, a greeting which was perhaps excelled only by the enthusiasm which brought them to their feet again and caused a hearty British cheer to echo through the historic hall that had witnessed the triumphs of Cobden, Bright and Gladstone, as she closed her speech.

"A wonderful address," said a veteran leader who had gauged every speaker on the temperance platform for the last forty years; "I have never heard it excelled and perhaps not equalled."

Similar demonstrations have been held in Charrington's great hall in the heart of the East end of London, in Liverpool where Miss Willard was welcomed by the Women's Liberal Federation—in Birmingham and Leeds, Nottingham and Sunderland, and in St. James's Hall, London by invitation of the indefatigable Rev. Hugh Price Hughes on Temperance Sunday.

The Methodist churches of London, not to be outdone, have already given a social reception to the most prominent figure among Methodist women of America, and on the 27th of February they are to accord her a formal public greeting in John Wesley's famous City Road Chapel.

Scotland has added her quota to the universal enthusiasm, and indeed in the judgment of some of our temperance workers has exceeded, perhaps, in demonstrating a more expressive sympathy in harmony with their well known national hospitality. St. Andrew's Hall, Glasgow, which accommodates 5,000 persons, was packed on the evening of January 29, and the great Synod Hall in Edinburgh witnessed the remarkable exhibition of the presentation of a testimonial by Dr. Blaikie, of the University, signed by the official representatives of every denomination in Scotland, together with the testimonials of each of the national temperance societies.

A more notable illustration of the result of Miss Willard's life mission could not be instanced than such a recognition from this most conservative body of Christians who have for so long resisted the work and influence of women. It is, however, no matter of wonder that the work and worth of Frances Willard should have been thus recognized in the mother country; for wherever the temperance cause has a champion, wherever the cause of social purity has an exponent; whenever the labor movement lifts up its voice, whenever woman, with the sunlight of the glad new day upon her face, stretches forth her hands to God, there her name is loved, cherished and revered. Tried by a jury of her peers, even amid the clashing opinions of this transition age, when the old is unwilling to die and the new seems hardly ready to be born, there would still come the verdict, "She is a fair opponent, she is a kindly comrade." As Lincoln said, she has "firmness in the right, as God gives her to see the right," and moves along her chosen path "with malice toward none and charity for all." From that more august and perhaps impartial jury, beyond the circle of reform, comes the verdict, prophetic of that which history shall one day record, "She made the world wider for woman and happier for humanity." We know that America owes her greatness to the sterling worth of those intrepid Puritan pioneers, who were the best gift of the old world to the new. So Frances Willard, who has in her veins that pure New England blood, owes to her ancestry much of the strength and courage that must ever be the basis of a reformer's character. Away on a Wisconsin farm, amid the cedars sweet and fragrant and the whispering fields of Indian corn, she caught the inspiration of her life from the mother whose strong and sunny spirit made glad the solitary place, and who brought into the prairie wilderness a most intrepid intellect and a culture exceptionally rare. The brightness of her own great nature made that desolate place "blossom as the rose" for her children. On that country farm, Coleridge, Wordsworth, and Pope were household friends. That enthusiasm for humanity which characterizes Frances Willard's work was breathed into her active mind by one born and bred in the great free soil State of the North, whose delight it was to teach her little girl to read from the "Slave's

Friend." What wonder that in after years one of the greatest achievements of Frances Willard's life was her mission of reconciliation to the women of the South, while yet the scars of war throbbed in their breasts, and new-made graves stretched wide between sections that had learned the misery of hatred. It was the white ribbon taken by her tender hands that bound those wounds, and gently drew the noble-hearted women of that sunny land into the hospitable home circle of the W. C. T. U. Sacrifice is the foundation of all real success, and it was a crucial moment in Miss Willard's life when she resigned the brilliant position of Dean of the first Women's College connected with a university in America, and went out penniless, alone and unheralded, because her spirit had caught the rhythm of the women's footsteps as they bridged the distance between the home and the saloon in the Pentecostal days of the temperance crusade. She has relinquished that which women hold the dearest the sacred, sheltered life of home. Around her hearth no children wait to greet her. But she has lost that life only to find it again ten thousandfold. She has understood the mystery of the wider circle of love and loyalty, and the world is her home, as truly John Wesley said it was his "parish." She has understood the diviner motherhood that claims the orphaned hearts of humanity as her heritage, and a chorus of children's voices round the world cherish and hail her name, for "organized mother love" is the best definition of the W. C. T. U. Well may we say in the words of our great poet:

"Live and take comfort, thou wilt leave behind
Powers that shall work for thee;
Earth, air and skies,
There's not a breathing of the common wind
That will forget thee, thou
Hast great allies:
Thy friends are exaltations, agonies and love,
And man's unconquerable mind."

Isabel Somerset.

## THE TEACHER'S NEED OF PSYCHOLOGY.

IT is now generally admitted that the teacher must know the subject to be taught; that he must know what the text book says about it; that he ought to understand the best methods of imparting knowledge, and many other things now recognized in the normal schools; but it is not often admitted, or even privately believed, that he should know the child. In fact the pupil, while he is coming to the front and pleading for his rights, is still regarded by the teacher as a very insignificant factor. It is not conceded that he must be studied as a child.

Mental philosophy early attracted the attention of thinking minds, but not as applied to juvenile education. It first originated by observing the phenomena of self consciousness, and from this point of view, it was studied. But it was regarded as one of the difficult things that only men of strong minds and much leisure might undertake. For ordinary teachers—men and women in the common schools—it was not considered practicable. So it comes about that teachers are not yet psychologists The training schools do not yet make much of the science, because like politicians, they never lead, but only follow the people, and do only what is demanded of them.

Psychology is *soul*-ology. Perhaps this is another reason why it is not popularly studied. So many look on

the soul as a mysterious, occult something, whose hiding place and habits it would be sacrilegious to reveal. Then many think the soul a mere abstraction —without form, size or parts—a kind of homogeneous *principle* which serves to impel us to action in a mysterious and unaccountable way, but which having no eyes, ears, or common sense is incapable of being trained, of doing anything, or of having anything done to it in a rational way. The following incident will illustrate the usual conception of the human soul. The writer took occasion to remark to a Sunday-school that every teacher in that school should teach the pupils that the human soul has eyes with which to see, ears with which to hear, hands with which to do, feet on which to walk, and a brain with which to think. At this strange doctrine one of the oldest men present was so horrified that he took the speaker aside to tell him he must never teach that way again. The following conversation ensued:

The writer—"Well, brother R., if the human soul has none of these things, what has it?"

Brother R.—"Well er the soul is not a person, like you and me."

The writer.—"If it is not a person, then what is it?"

Brother R.—"Oh! it is just a principle."

The writer.—"You believe that when the body dies the soul lives on. Where does it go?"

Brother R.—"It goes to God!"

The writer.—"But what kind of looking thing is it when it gets there? What shape or characteristics has it? How does God know it is my soul?"

Brother R.—"Well er I don't know about that. God knows."

This represents about the popular idea of the soul. It is so vague that it amounts almost to *nil*.

Yet, the teacher must train this soul —all of it. We now hear a great cry against our schools because they fail to train, or educate, certain parts of the soul. But how can they train that of which they do not know, and how can they know unless some one teaches them?

The human soul is above every other mundane thing in value. The sparkling stars shine down on us in loveliness; the majestic planets keep their steady march around the sun, and awe us by their greatness; the sun himself sits in the heavens and casts his rays of warmth and light with royal grandeur; the quiet moon holds her even way and woos us by her changing beauty. Yet, in their relations to us these are not to be compared with one single, human soul!

Carlyle said, "A healthy body is good; but a soul in right health—it is the thing beyond all others to be prayed for; the blessedest thing this earth receives of Heaven."

This "blessedest thing" is what the teacher comes in contact with. It is the thing "that makes each pupil what he is," the "thing" the teacher is to direct, develop, educate, train. Psychology, then, is the most practically useful of all the sciences—the "one thing needful" to the teacher.

G. T. HOWERTON.

## "SLEEPING, I DREAMED."

Dreaming, I float on a billowy sea,
Past willowy isles and shadowy shore,
Wrapped in the fold's of life's mystery,
Spreading white sails without rudder or oar;
Beautiful forms tho' long in the grave,
Silently beckon me over the wave,
Smiling with eyes that nevermore weep—
Beautiful phantasies woven of sleep!

Upward I wing to an heavenly crest,
By mountains that lift to the azurine skies,
Away to the circles of infinite rest
Where fountains of youth eternally rise;
Friends of old days are trooping about me—
Scenes of fair childhood are dawning upon me
Faintly and sweet angel voices are blent,
Fragments of bliss to night's day that are lent!

Mother and father from over the plain,
Are chanting their joy with welcoming strain,
Bending, their white hands are held out to greet me,
O vision so rare! The gray morn will break thee—
Back to earth's worry I'm wafted once more,
Back to its toilings I thought had been o'er,
Jostlings of strife and throes of life's pain
Wake me from sleep and from dreams that are vain!

IDA BARTON HAYS.

## ORANGE JUDD.

THIS widely known and esteemed leading editor of the *Orange Judd Farmer*, of Chicago, after a few days illness, died in that city on the 27th of December last. He was born July 26, 1822, near Niagara Falls, N. Y. He was graduated at Wesleyan University in 1847. Until 1850 he was a teacher, and then studied analytical and agricultural chemistry at Yale. In 1853 he became editor of *The American Agriculturist* (New York), and three years later its owner and publisher. He was also editor in his favorite department of the *New York Times* from 1855 to 1863 In 1857 he went to Europe and imported a quantity of sorghum seed, which he

ORANGE JUDD.

distributed free. He was the principal member of the firm of Orange Judd & Co., which published agricultural and scientific works, and *Hearth and Home*, and later he was president of the Orange Judd Company for some years. In 1863 he served with the Sanitary Commission at Gettysburg, and then with the Army of the Potomac from the Rapidan to Petersburg. In 1868 and 1869 he was president of the New York, Flushing and North Side Railroad, and of the New York and Flushing Railroad. In connection with Conrad Poppenhusen he projected the network of railroads now covering Long Island. In 1883 Mr. Judd retired from the presidency of the Orange Judd Company and was succeeded by his brother, David W. Judd. For some years previous he had been only nominally connected with the company. In July, 1883, Mr. Judd made a personal assignment. While he was in the country, recovering from the effects of a sunstroke, one of his creditors sued him on a note for $4,000. Mr Judd could not attend to the case and the creditor would not consent to an extension of a few days, which would have made the assignment unnecessary. Mr. Judd's financial embarrassments began in 1870, when he gave $100,000 for the Orange Judd Hall of Natural Science at Wesleyan University and contributed largely to the building of churches and Sunday-schools and to other philanthropic enterprises. He was then largely engaged in real estate operations and railroad enterprises. Heavy depreciation of his real estate crippled him and he went into various business enterprises with the hope of realizing enough to meet obligations incurred by lavish giving in prosperous times, but in some of them he lost heavily. In 1884 he established the Orange-Judd Farmer Company in Chicago, still writing a great deal for the press, notably his own journals. In 1862 he originated a series of Sunday-school lessons for every Sunday in the year, upon which the later Berean and International lessons were modeled.

Mr. Judd was intensely interested in the practical and scientific side of life, and it is interesting to observe that his organization was remarkably well adapted to the work which he performed. His temperament was a fine illustration of the mental motive. The large brain gave him a love for intellectual pursuits, and the strong, bony frame and firm muscles imparted to his mind a

taste for the solid, the substantial and the real, rather than for the gratification of either the lower appetites or the pleasures of imagination.

His head was evidently fairly well balanced, but the upper and frontal regions were especially large. He was no doubt fond of a few friends, but he was not a club man or likely to be attracted to fashionable circles. He seems to have had a fine sense of honor, great love of approval, strong religious feelings, and unusual Benevolence.

From the general indications of narrowness in the lower face, the length of the neck, the temperament, etc., it is not probable that his Acquisitiveness was very strong. He made money through his industry and intelligence, and to satisfy his philanthropic ambition. But he did not evince much disposition to keep his wealth, and obviously lacked the sagacity characteristic of those who hoard their property.

His intellect was well adapted to gather information covering a wide range of subjects, but especially within the sphere of mechanism. Constructiveness, Size, Weight, and Comparison were extraordinary, and he was thus eminently fitted for the editorial duties he discharged with such success.

E. C. B.

## AN AFTERNOON WITH THE BLIND.

UNTIL comparatively recent years it was tacitly allowed that pauperism or beggary was, generally speaking, the only alternative for the blind poor. Some few might be able to earn a miserable pittance by basket-making or straw plaiting, but, as a rule, the only prospect for the sightless child of parents in the humbler walks of life was an existence of privation, dependence and joyless gloom, shut out as he or she must—as was then supposed—necessarily be from all the pleasures and profits of labor, and debarred from the simplest educational advantages. During the present century, however, the condition of these unfortunate ones has vastly improved, and never so marvellously as since the foundation, in 1872, of the Royal Normal College and Academy of Music for the Blind—the joint creation of the present Principal, F. J. Campbell, Esq., LL.D., and the late lamented Dr. Armitage. In these handsome buildings, so delightfully situated on the slopes of Norwood, a pleasant suburb of London, an education—technical, musical, mental and physical—is being imparted to numbers of our sightless sisters and brothers, which, though including some of the poorest among the recipients of its benefits, is thankfully sought by many who are able to pay as much as from £80 to £100 per annum for the advantages received.

It was on a pleasant summer afternoon that we found ourselves on the velvety green lawn of the College, where, bareheaded to the gentle breeze, and seated at tables beneath the shade of rustling trees, we saw groups of young people engaged in various branches of ordinary study.

One class of girls was rapidly writing from dictation in the Braille type, which is almost exclusively used in this institution. The materials are, a wooden board—whereon a sheet of stout, parchment-like paper is held by a sort of clip—a style and a brass guide. By means of these latter, the paper is inscribed with punctured dots in an almost infinite variety of groupings, each group representing a different letter or word; the sentences, which are written from right to left, being, when the sheet is turned over, read in embossed characters from left to right. Difficult as this process of reversal may appear, it is accomplished with perfect ease by the pupils.

We found another class reading aloud from Shakespeare in the same type, rendering the words of the play with as great readiness and intelligent appreciа-

tion, while their delicate finger tips passed swiftly over the bewildering maze of raised dots, as any young folks of similar age with the printed book before them.

Yet another group, each with her hands outspread upon an embossed map, were rapidly answering questions in geography, feeling the way with directness and aptitude from London to York, or from Liverpool to Portsmouth, and accurately naming each town passed on the way.

Among the boys' classes we were most interested in one where half-a-dozen bright lads were busily solving the arithmetical problems given out to them by their teacher. This is not mental arithmetic; neither, it is needless to add, is it accompanied by the familiar "click" of slate and pencil associated in most of our minds with "doing sums;" and although figuring is quite possible with the Braille writing frame, the latter is not adapted for the use of beginners, with whom frequent errors and erasures are liable to occur. To meet this difficulty, various kinds of calculating boards have been invented, but the best is that introduced by the late Rev. W. Taylor. It consists of a shallow metal tray, the greater part being covered by a plate, in which are rows of star-shaped perforations of about the size of a pea, and having eight points each. Into these openings fit square pins, something like the types used in printing. At one end of the pin is a raised ridge, and at the other a similar ridge, divided in the middle by a deep notch. The position of this pin in the eight-angled star thus admits of sixteen variations, which may be instantaneously changed, and represent the ten Arabic numerals and six ordinary algebraic signs. The uncovered end of the tray forms a handy receptacle for the loose pins, and a safeguard against loss. By means of this ingenious contrivance, the young students can practice ciphering as expeditiously as any seeing schoolboy.

At another table, geometrical problems in embossed lines were occupying the attention of some older youths, but the flight of time compelled us to turn from these and hasten to the Kindergarten Department.

Here little sightless ones, of from four years old and upwards, were delightfully employed in various kinds of interesting work—paper plaiting, basket weaving, figure laying, and, above all, clay modeling. Who would imagine that this charming plaque, on which is arranged in high relief a bunch of buttercups, is the work of a child who has never seen a flower? Or that this knowing-looking little dog was copied from a china model by the sense of touch alone? But we see similar works of art in course of development. One boy is engaged upon a cluster of pea pods, open and closed. Patiently he moulds the shuck upon his finger, while the companion at his side is rolling in his palm the tiny balls that are to lie within. No small article comes amiss as a model to the little blind artists—a toy duck or pig, a cotton reel, a tiny shoe (with buttons complete), jars, cups, and fruit, have all been copied by them with charming fidelity, and, we are sure, the keenest delight.

In another department light carpentering on what is known as the Slojd system is taught to girls and boys alike, it being found invaluable for the technical training of those faculties of manual dexterity, which, through the kindly but too constant ministrations of friends, are often found to be dormant in the uneducated blind. The usefulness of this branch of instruction is especially felt by those pupils who subsequently enter the pianoforte tuning shop, a department wherein already over one hundred youths have been trained with such success that they are all now well established in business, not only supporting themselves, but in some cases contributing liberally towards the maintenance of widowed mothers or younger brothers and sisters.

*(Conclusion in May.)*

## A PURSUIT AFTER VITALITY.

Is there not known to some of us a sort of life with no real delight in living? And is there not, too, a state to which we can arrive when much of our time we can feel exhilarated in spirit; when to live and to think are a positive delight? We very well know that this delight is what makes up a large proportion of what we really enjoy. It is, let us say, only a quiet view of what surrounds us, joined to some indifference to past and present and future fate, and a lively pleasure in doing something, no matter what, that fills up our happy cup—usually a small and easily filled one. To such a state, by means of the best training we can get, I think we can all approach.

Perhaps it would be tedious to relate the whole experience I have had; yet I should be prolix rather than obscure in my relation. Read, then, this sketch of a life on this way and learn by what I can tell how to come into the good region where there is a moderate joy in living.

Learn, first, that I long believed in attaining vitality from some one else. But I could not gain force by contact with another. And I venture to say that I doubt whether any one is sure that he loses any vitality from contact with another. I do not think any one can gain or lose in vitality by touching man, child or animal. To do so, I watched long and carefully. Contact as close as I could obtain imparted no fraction of vitality to me. How provokingly vigorous seemed some of my acquaintances!—supremely selfish! like rich men who gain all and give away nothing. Nor did I get any good in following out what training they told me they had had. It can be easily seen what weariness might result to me in following out their prescriptions, for strong men do with pleasure feats which an ordinary man would break down in doing. They showed me what *they* were doing and I could see the good effect upon them. There were also numerous books describing what training, food and treatment prize fighters were given. What the books said, I tried to do, with some good result in activity. The next thing in the period when I was feeling my way, was to place myself in the hands of a trainer of men for the ring and general athletics. He knew how carefully I must be handled, and he prescribed excellent exercises suitable to my condition, which greatly cheered and aided me.

Soon I began to have some intelligible notion of what I was to do. I came, too, into pretty close contact with real athletes—boxers, runners, "all-round" men. And here I learned the well-trodden paths which for several years I have industriously followed. I have met with three such cautious and well-equipped trainers. The first, just

mentioned, counselled that I should at the start run half a mile: "Take off your coat and vest and run now, on this track: run slow, on your toes." A year afterward, when asked for advice, he said: "Walk right off, ten miles, in good weather, when the road is in good order." In a little while, by persistent exercise in the gymnasium—I frequented three one after another—I could deliberately run three miles without fatigue, and feel refreshed after the "spin." My ordinary run, when I do run, now is half-a-mile, slowly run on the toes, which is about right for almost any one, when a run is indulged in. A mile is enough for most persons who want a little longer distance, after a few days' practice.

Here interposed a singular epoch. I learned to read Hebrew. What has that to do with energy—latent vitality? Much. The Hebrew race is pre-eminently a vital race—long-lived, vigorous, sound, hardy in endurance. I learned, too, from contact with some good representatives of the race, to eat and to like black bread.

There were several ways in which I found my opportunities for exercise—swimming, running, walking, club-swinging, the use of dumb bells, altert nating with occasional seasons of gymnasium work whenever the gymnasium was accessible.

So in the midst of finely-wrought well-made, even-built athletes much delight was long found, and when among these agreeable—I will write delightful—associates my life became at last more normal, less intolerable, much better in effort. Hopefulness, light, satisfaction and sweet sleep came to me. Quiet joys allured; work was more easily done; while, adding to my exercise the judicious selection of grains as a regular dies (only occasionally eating meat), the years went on easier and lighter.

Asking myself questions like what I have proposed in this paper, I began thereafter the serious study of living healthy men, regarding growth, proportion, development and variation.

It seems to me that much is known now as to how a man can make himself stronger, and so happier and more useful; how he can become less morbidly sensitive; what high proportions he can aim to approximate; what general principles will tend, when followed out, to make him a more equable man in his make up, more quiet mentally, more active physically.

I have learned, I think, therefore, what the word vitality means, as well as how new vitality may be gained, conserved and efficiently used.

HENRY CLARK.

## THE FOREIGN RATIO IN AMERICAN INSANITY.

Statistics show that where there is a large foreign population, the ratio of the insane to the sane is increased. In California for instance, though the foreigners form hardly one-third of the population, they furnish two-thirds of asylum inmates. According to the reports of the Napa asylum for the years 1880 to 1888 inclusive, of 3,612 patient-admitted there were 2,139 foreigners, while only 1,473 were born in the United States. This is explained by the fact that, even conceding the brain of the average immigrant to be as stable as that of the native, the change of environment is so pronounced as to account partly for this result. It is true that the substitution of the meat for the vegetable diet, the separation from home and friends, the stronger the stimulus that is necessarily applied to both body and mind in the competition for even the necessities of life, all tend in this direction. At the same time, it does not altogether justify so great a preponderance of foreigners. Only 194 of the 1,473 natives were born in California; the others, having emigrated from other States, have also been subjected to the same conditions though not to so pronounced a degree. We find moreover,

a difference in ratio among the foreigners, which proves that nativity is a prominent factor.

It would seem that the French and Irish, do not furnish the largest ratio. On the other hand, it is the hard working Scandinavian, and the phlegmatic German who furnish the largest proportion of our asylum inmates. Much has been said about this being the dumping ground for foreign nations, but this is an assertion not easily verified. There are probably many other causes that could be properly urged as tending to this result. Certainly not the least is the intellectual status of those who emigrate, and to this should be added the habits, food and especially the intoxicants are powerful factors in the production of the insane diathesis. — *The Pacific Medical Journal.*

## VEGETARIANISM AND ENDURANCE OF HEAT.

THE life of the Trappists who built a monastery at Maryshill, in South Africa, for the purpose of converting the Kaffirs, is described by their Prior, Franz, in the *Calendar* for 1890. He speaks of the necessary preparation of white people for the climate there and says:

"A more or less material and sudden change of climate by white people, from the temperate zone and Northern European regions, renders a corresponding modification of diet and habits imperative; at least, if said tourists, etc., expose themselves freely to the sun. It is advisable for the candidates to come prepared and promptly to adopt the habits of the natives and acclimated foreigners. The latter, if wise, seasonably cool the body and ærate it as a protection against heat and inordinate thirst. Heat, internal and external, from the sun and radiation may be temporarily overcome by bathing and washing, more effectually with tepid than cool or cold water, but radically only by suitable diet.

"Persons intending to explore or to live, in Africa ought for several months before abstain from food and beverages positively producing heat, specifically the nitro-genous, the flesh of animals, eggs, butter, salt, sugar. The Trappists use none of these, of cheese very sparingly, and they are well known in Natal for the immunity from *high heats.* They came in 1880, and, with the exception of two years spent at Dunbrody (Cape Colony), have lived at Natal. The first arrivals, numbering thirty, never sickened during sixteen months, although subject to many hardships and very hard manual work.

"The majority go always bare-headed; several have a straw hat or a small cap that hardly covers the crown, on the hottest days. Yet the entire neck and forehead are fully exposed to the sun, and, besides, the head is bald the greater part of the year. Once only a member had an attack of vertigo (sunstroke) but soon recovered, without subsequent injury. A normal temperature of body, caused by judicious diet and habits, alone enables one to become acclimated, and exempt from the dangers befalling the unwary. A strict vegetarian diet well adapted to the locality is *sine qua non.*"

## FAITH AND CHLORIDE OF LIME.

THERE are many persons who put faith in the place of works, and some who would put works in the place of faith; the results of the transfer always being disastrous. There are cases when persons live in such a way that they make themselves sick, and pray to be healed; when if they had taken proper care of themselves they would not have been ill, and if they had ceased to do the things that made them ill they would soon have got well of themselves.

John Habberton, tells of a preacher who visited a sick man, whose house was filled with poisonous gases from a

neglected drain. Talking of faith the preacher said to him: "You don't need to use more *faith*, but you *do* need to use some chloride of lime on that drain, if you want to get well."

We have great faith in prayer, but prayer does not clean out drains, or dissipate poisonous gases. The Lord taught His ancient people to pray, and he also taught them to be careful about their food, to keep clean, to take baths, to tear down unhealthy houses, to wear suitable clothing, and deny ungodliness and worldliness, to rest from their labors at the appointed times, to behave themselves in their homes, and to treat their wives and children as they should; and he would not accept prayer as the substitute for any of these things; indeed, He would not allow men to come into His presence, until they had attended to these necessary things; and it is probable one-half of the people who now appear in worshiping assemblies would, under the Jewish law, have been *entirely shut out from the public worship of God, as unclean*, and would have been sent home, to take a bath, wash their clothes, govern their passions, and clean up generally, before they would be allowed to enter the congregation of the Lord, or engage in public worship among his people.—*The Christian*.

## HANDKERCHIEFS AND DISEASE.

IT is not fully appreciated by the public that the article we carry as an every day and necessary part of our attire may become charged with elements of infection. If it were, there would be shown much more care in the use of the handkerchiefs and of their cleansing. Especially should this be the case in families of whom any member is troubled with a cold or an influenza. One person with a catarrhal affection may impart the trouble to an entire household. This fact should make it common practice to isolate the handkerchiefs of an individual who is affected by an "influenza." The handkerchiefs used by such a person too, should be treated in the following manner:

They should be placed under water in which a quantity of kerosene oil has been poured, and there remain for say two or three days, then the water is to be heated—by pouring on boiling water—and when this is cool enough they may be washed, soap being used of course. Another washing in oil and soap makes disinfection sure and completely removes all stain and effect of nasal appropriation. Then rinse the handkerchief carefully in warm water, and if possible hang upon a line to dry in the open air. Let them remain out on the line over night. When handkerchiefs are treated in this manner, diseased matter is robbed of its danger, a fabric of delicate character spared the sacrifice occasioned by hard rubbing and washboard penalty, and the luxury of a soft, clean and white appliance may be had for the suffering nose, which is liable to be for a time very sensitive from effects of "blowing and excoriation." If the best quality of kerosene oil is used, and the handkerchiefs are freely rinsed after oil and soapy water has cleansed and disinfected them, there will be no odor of kerosene discoverable later in the neatly folded and ironed handkerchief. An exchange vouches for the competence of this method of treating handkerchiefs, and we willingly commend it to our fellows who are subject, at this season especially, to nasal and throat catarrhs.

## HIS MOTHER'S PIE.

A dainty young wife made a "beautiful pie"
For him who was king of her heart;
It suited her taste, and it suited her eye,
And was a production of art.

She gave him a piece at the table with pride,
And watched her dear idol partake.
"I made it myself," said the fair, loving bride;
"And how do you like what I bake?"

The bridegroom gazed down at the wonderful pie;
The bride sat in tremulous fear.
At length he returned her this doubtful reply:
"It isn't like mother's, my dear."

Tears shone in the depths of her gentle blue eyes;
How could he such language repeat?
"No, love," he continued, "this pie is a prize
Mother ne'er could make one fit to eat."

—*Laura Rosamond White, in Puck.*

# NOTES IN ANTHROPOLOGY.

**Trial by Ordeal in Africa.**—In an African village the work is done chiefly by the women; they hoe the fields, sow the seed and reap the harvest. To them, too, falls all the labor of house-building, grinding corn, bringing beer, cooking, washing and caring for almost all the material interests of the community. The men tend the cattle, hunt, go to war and curiously enough, do all the sewing required on their own and the women's garments. Neater tailors than Africans it would be impossible to find anywhere. By means of an awl and tendons from the animals of the chase, they can sew small squares of skin together so as almost to defy an expert to find a seam without looking at the reverse side, nor are they mean artists as regards art and fit according to African notions. Of all central African customs, trial by ordeal, which is universal, is the most revolting to a European, brought for the first time into contact with savage life. When a man is accused of any crime—as theft, arson, murder, witchcraft or the like, evidence is brought against him in the way common throughout the whole continent. This, however, is never final. The accuser's witnesses swear to anything required of them without the slightest compunctions, and as the prosecutor must produce his evidence first, the defendant's witnesses are ready to swear, and do swear the opposite of all that has been said. Trial is invariably in open court, and nothing said by the witnesses for the prosecution can be concealed from those that are to follow. There are no affidavits, thus making contradiction at once simple and safe. If rebutting evidence were allowed the most paltry trial would be interminable. For a witness to be called a liar, is, in such a case a compliment. It proves that his evidence told and that he, by inference, is a very clever fellow. If the same man were accused of bewitching, he would regard it as a foul libel, and demand the poison bowl without an hour's delay. To remedy the defects of trial in court, that by ordeal is adopted in all kinds of cases both civil and criminal. As the case proceeds before the council, the accused at intervals demands the *muvai*, and this demand, his friends if they believe him innocent, persistently press. The accuser resists the demand as unnecessary, knowing that should the culprit, even if caught red-handed, recover he will be placed in a difficult position. He will in that case have no claim to compensation for an injury, and may in turn be successfully sued for willfully seeking to destroy another man's reputation. The belief in the absolute certainty of trial by *muvai* is universal, and the beginning and end of reasoning is this: "If he is guilty he dies; if he does not die, should the stolen property be found on his person, he is not guilty, another put it there, or he is bewitched." —*Journal of the Anthropol. Inst.*

**Race Distinctions.**—In the *Popular Science Monthly* for February is a translation from the book "L'Homme dans la Nature," regarding a matter of special interest to a student of anthropology. The following is an extract. "There are, properly speaking, no races within mankind such as we find among animals — that is, constant varieties, perpetuating their likes in a certain manner. There are only historical or philological remnants of people to whom we attribute, rightly or wrongly, a certain number of common physical characteristics. In any other sense the races of anthropology are simply products of our minds, suppositions of substantial affiliations of unmixed blood, working hypotheses. There are no persons corresponding to the types we assume. These types themselves are not tangible realities, but groupings of characteristics which we suppose to have been continuing for an indefinite time through the events of history and prehistory, which, without destroying the characteristics, have not ceased to scatter them and to arrange them anew in different combinations. From particular types we rise to the notion of general types, which are likewise only probabilities, going up gradually to histori-

cal, prehistorical and quaternary types, and by inductive constitution to primitive types. Every anthropologist has his classification of types, some admitting more, some less; in the classification of our lectures and our *elements d'anthropologie generale* we enumerated nineteen, without concealing the existence of many gaps. All this is not very favorable to the unity of the human species, but whether there were originally one or many types, the results are the same. At present all men are capable of unlimited crossing, and new types are continually forming. If we would go up to the origin of things, we should have to simplify more and more. In the first stage of our synthesis, we should come to eight general types, viz.: a fundamental European blonde type, a Mediterraneo-Semitic, a brachycephalic Asiatic, a dolichocephalic Asiatic, an Americo Polynesian type, a black type with curly hair, a brachycephalic negro and a dolichocephalic negro type. But perhaps dolichocephaly and brachycephaly are only secondary differentiations that may be produced in all the types, as large and small stature may be too; the black man with curly hair may be only a cross. Nothing is easier, in fact, than to conceive in the light of anatomy and physiology that all types of mankind can be reduced to three original types — the Europo-Semitic, the Asiatico-American and the negro; or to two—the white, which is differentiated into those of flat and of sharp faces, and the negro. A further reduction would be hazardous. But if we lost ourselves in the depth of the ages, we might conceive the negro as first born and giving birth in succession to the curly-haired Australian, to one of the brown forms with straight or waving hair, and finally to the blonde European. Hence the monogenistic system (or the doctrine of the unity of type and origin) and the polygenistic system (or the doctrine of plurality of type and origin) are equally tenable. Natural history proves indisputably that man is the issue of a primate. It is opposed to the idea that we are descended from an anthropoid like those of the present time.

**Musical Progress in America.**—The Americans, notwithstanding all that has been said to the contrary, are a musical people. Their taste is still unformed, but it is naturally a good one, and is sure to grow in the right direction. But in order to grow in the right direction it must be properly cultivated. It has thus far been sufficiently developed to enable them to appreciate the superiority of the new methods in music over the old. What has already been achieved is remarkable, when one considers the disadvantages which retard the progress of music in this country. Whenever operas have been given, they have almost invariably been sung in an alien tongue. No satisfactory results can be achieved here, nor can America produce any national music, until opera is given in English. I look forward to the time when American composers will produce great operatic works of a distinctly original character, written in the vernacular, but until that time comes, I believe that such foreign works as are performed here should be translated into English.

The unsatisfactory state of our musical culture is due chiefly to the intermittent opportunities which are given here for musical education. It would be folly to expect people to form a healthy musical taste simply by hearing operas occasionally produced, and almost always in an inadequate manner. What we need is American opera given under American influence. This can be brought about only by an elaborate and well-organized system of musical education. We have plenty of good material for the making of musicians, but this material is buried beneath the army of foreign artists who annually come to our shores, and whom Americans have formed the habit of encouraging, often simply because they are foreigners.

In order to bring out this latent material, a school for opera should be established here. It would keep at home those young musicians who now go abroad to study, frequently under great disadvantages, and would encourage those to undertake a musical education who are deterred from it by the expense which they would incur by a European training. The schools should not only train singers, but also young men who are ambitious to become orchestra players and orchestra leaders. There should be in connection with it a theatre, in which operas

might be produced, thus making a practical school for opera. American composers, too, would be greatly helped, for the school should endeavor to encourage them, not by ignoring works written by foreigners, but by giving the preference to operas written by Americans. Such an institution would be of immense benefit if it only taught us to cease aping the French and Italian peculiarities, and to work on individual lines. Let us, by all means, assimulate what is best in German, French and Italian art, but we can do this without being enslaved by any one of them, and let us endeavor to express our own natures, which is, after all, the only means of attaining that highest and best of qualities—originality.

Thus Herr-Anton Seidl, in the *Forum*, to which it may be added that of efforts that are being made in New York to advance the musical interests of America we should mention the National Conservatory, which, under the patronage of Mrs. J. M. Thurber, offers special inducements to those students of music who aim at high excellence. Free scholarships are the rewards of successful examinations that indicate proficiency and special talent.

We note that the Metropolitan College of Music also offers liberal training through extended courses of lectures and class instruction. A new departure at this institution well deserving of notice is Dr. H. G. Hanchett's courses in Analysis and Criticism, and the unique addition of a course in Musical Pedagogy, for which Dr. Hanchett is individually responsible. This, by itself intimates a step in the higher domain of music study that can scarcely be paralleled in any foreign conservatory. We trust that the accomplished teacher will be sustained in his attempt to develop the philosophical principles involved in musical art.

**What Prehistoric Graves Tell Us.**—Burial customs in prehistoric times are worthy of study. The final resting places furnish us hints as to the architecture which prevailed. The posture chosen was after that of sleep, the body lying on its side, with the arms crossed and the knees drawn up to the chin; the whole was covered with a quantity of red powder. This custom was common among certain hunter tribes in America, though most of the bodies which are covered with red ocher are in a recumbent attitude. The habit of unfleshing the skeleton was also common in America as well as in Europe.

The palæolithic folk also buried treasures with the bones of their dead. They kept the bones within the precincts of the abode of the deceased. This was owing to their religious belief. The temporary separation of the body from its double required that the bones should be laid in the cave or dwelling in which he had lived or in a harrow or tomb built in the semblance of it. The implements, weapons and ornaments were buried with the body, sometimes broken, in order that the ghosts might be set free for the use of the ghost or spirit which always hovered near. We find traces of this belief in ghosts prevailing throughout the world. It is as common in the New as in the Old World, and was prevalent among the uncivilized races everywhere.

The use of fire was perhaps common among the cave-dwellers. In one of the Reggio caves human bones were found mixed with those of animals, and both showed traces of having been burned, though these are supposed to be neolithic. At Solutre, Mayence and Corsica large slabs of stone, laid out flat and covered with heaps of cinders, which formed the family hearth, have been seen.

The baking of pottery is proof that the use of fire was known in remote times, but pottery is generally regarded as a true sign of the neolithic civilization, and is denied as belonging to the palaeolithic. Cannibalism is supposed to have prevailed in this period. The cave-dwellers have been compared to the Eskimos, as the bone carving is very similar. The "reindeer period" is illustrated by this means, but no skulls like those of the Eskimos have been found in the caves of Europe. This overthrows the theory that the Eskimos are the descendants of the cave dwellers. There was a wide gap between the palaeolithic age and the neolithic which has never been filled or even bridged. All the prehistoric structures are on the neolithic, none on the palaeolithic side. It seems to be largely conjecture whether man, who

contended with the extinct animals, had any home. Tombs also are confined to the neolithic age; there are no tombs in the palaeolithic age. The cultus which prevailed during neolithic times is to be learned from the caves and tombs. From these we learn the character of the earliest abodes of man; but we know nothing of his abodes in the palaeolithic age.—STEPHEN D. PEET in *American Antiquarian.*

**The Origin and Antiquity of Man** was the title of a paper read by Dr. Wm. M. McLaury before the Anthropological Society of New York at one of its recent meetings, and from it the following extracts are taken: As to the origin of man the evolution theory is adopted as most reasonable to the author's mind. That life originated by combined action of heat and moisture on cosmic dust is not improbable; but it is impossible to conjecture the vast eras of time it has taken to evolve from this source the great variety, genera and species now found in the fauna and flora of the present time. What we have to say, then, respecting the origin of our early ancestors is this, that when matter was subjected to a complicated play of forces, chief among which was solar influence, plants and animals came into life, and that when animals were subjected to an ever increasing variety of forces they became varied in their structure, and that when their structure had attained a certain measure of variety, they became conscious of their own existence, and that their nature endowed them with the faculty of preserving their lives and that of their species by their own conscious efforts. We find in the lower kingdom muscular power in its perfection, but the brain is always imperfect, always young, always growing, always capable of being developed. In writing the history of animal progress we must, therefore, concentrate our attention upon the brain, and we shall find that the development of that organ is in a great measure due to the influence of the affections.

By briefly describing what the lower animals do and what they feel, we should show that they possess in a dispersed and elementary condition all the materials of which human nature is composed. In their communities there is sometimes a regular form of government and a division into classes. They have their monarch, their laborers and their soldiers. Some species have slaves, which they capture by means of military expeditions, attacking the villages of their victims and carrying off the prisoners in their mouths. They have domestic animals which they milk. They build houses and towns which are ingeniously constructed, and which, in proportion to the size of the architects, are greater than the pyramids as compared with man. As among savage races of men, the sickly and weakly are usually killed, though sometimes they are kept alive by alms, even the blind being fed by charitable members of their own set. All gregarious animals have a language by which they communicate with each other. Sometimes their language is that of touch, but with most animals the language is that of real sound, and the varied intonations of anger, joy or grief, may be recognized by the human ear.

The language of our progenitors consisted of vocal sounds and also movements of the hands. After dwelling quite at length upon the many similarities in the traits of men and animals, Dr. McLaury traced the progress of man from the early palacolithic cave-dwellers, through various stages of development or evolution, to the civilization which the world has now attained.

E. M.

**Decay of Turkey.**—In Africa, England governs the fate of Egypt, France is in Tunis, Italy is on the Red Sea. England possesses Cyprus, Crete is under European protection, Russia holds Batoum and Kars, and the Turk is killing all prosperity in Asia Minor by his cruel taxation. The "sick man on the Bosphorus" is dying more rapidly than Europe knows; and the heir ought to be the Christian people whose fathers were dispossessed of Constantinople in 1453—not the Russian, bnt the native Christian. The Turk is sick and dreadfully poor, and his "friends" want his estate. The true owners may get it by the quarrels of "the friends."

NEW YORK,
April, 1893.

## THE DIFFERENTIAL INFLUENCE OF TEMPERAMENT.

A VERY proper question is asked by a correspondent in reference to the differential influence of the tem peraments upon the mental organism. In the phrenological treatises temperament is discussed rather in the general than the particular, so that the student who is inclined to pursue an investigation regarding the action of the faculties in their relation to certain degrees of temperament must largely plow the field for himself. At the last annual meeting of the Institute Alumni one of the papers that produced lively discussion had for its topic the relation of the temperaments to the manifestation of faculty, and it was then declared that there was room for important work, and that he who would explore that field and give the results to the literature of phrenology would earn the gratitude of a large public.

What we can say in this place on the topic is scarcely more than a hint to the reader who is conversant with the principles of mental physiology: a hint that we hope will stimulate reflection and observation, and find an outcome in well formulated and practical deductions. It goes without saying that every well informed and competent phrenological observer recognizes the part played by temperament in mind and character, and in his analysis of single instances takes into account many phases of influence, the character of which is not defined "in the books," but which have been clearly recorded in the tablets of his experience. Perhaps it would be difficult to translate into words some of the effects of temperament that may appear obvious to such an observer, yet the literature and teaching of practical phrenology must ever remain incomplete if this department of the subject be not reduced to "a form of sound words." Let us consider the faculty of Combativeness briefly as an illustrative example of temperamental influence; bearing in mind the simple function of this mental power, which is defined as the instinctive tendency to oppose. In a low degree of activity it inspires mere resistance. When largely developed it leads to aggressive effort either physical or moral for the purpose of removing obstacles. Hence the feeling of courage is dependent mainly upon its activity. Assuming now a certain degree of power in the feeling, what effect would a predominant mental temperament have in its expression? Looking for a moment at the significance of this qualification of the physical organism we note that it promotes nervous activity, acuteness of sense impression and the intensity of feeling; but at the same time the tendency of the activity is toward refinement and delicacy of feeling and taste. This is but a natural resultant of the predominant cerebral and nervous growth that

characterizes the temperament, the convolution in the upper and anterior lobes being as a rule largely developed and the convolutions at the base of the brain being but moderately so The effect of its influence upon Combativeness may be inferred to be that of inspiring sensitiveness and a consequent promptness of response in those circumstances that tend to arouse the sentiment of defence or opposition. Of course the color of the expression would depend much upon the coordinate influence of other faculties, but generally the character of the expression would not be that of coarseness and brutality. It would combine features of intellectual discussion and moral assertion, and so endeavor to carry its point rather on the humane than on the physical side; it would be earnest and persuasive and not inclined to rude assault. In a mood of exasperation when the feelings had been aroused by some very unusual and unwarranted offence against personal right and safety it would be likely to render the Combative expression direct and rapid, the other faculties being stimulated to forceful and sharp manifestation according to their development and training.

The motive temperament, with its physical constituents of well developed bone and muscle, firmness of tissue, strength and endurance, imparts a quality of action to the organ under consideration that is essentially different from the effect of the mental temperament. We note at the outset that the manifestation of defensiveness and courage must be of a positive, emphatic nature. There is a sturdiness in the expression of the faculty that suggests the set contracture of muscle in the attitude of resistance to an attack. While the mental temperament inspires vivacity and resilience to the action, the motive temperament is particularly distinguished for force and strength, and in circumstances of special excitement it inspires the aggressive quality in the expression of courage. The action appears to be physical largely as compared with the stimulus imparted by the mental factor; there is less of intellect in it, and much less of moral sentiment; consequently the appeal of the organism in general appears to be more to the energies of the body than to those of the mind for accomplishment of the demand that the aroused combativeness makes upon the man. The motive temperament has, in a general sense, an executive influence, moving the faculty to decided action and meeting force by force persistent and direct.

The vital temperament in its bearing on the faculty brings the characteristics that distinguish it. We know that in those who possess it the bodily functions are performed with vigor and facility, the blood flows freely through the various tissues and all parts, being abundantly nourished, are stimulated. The brain organs work with freedom and respond promptly to impressions, and, according to their size and development, indicate ardor, versatility and impulsiveness. Elasticity rather than strength, quickness rather than persistence, enthusiasm rather than endurance, and brilliancy rather than depth and soundness, characterize the expression of organs dominated by this temperament. Liveliness and openness in the expression of the feelings tend to excitement and passion. Hence, when

there is irritation, the response of combativeness under the influence of the vital temperament is impulsive and quick. The organ acts impetuously, and intimates its full power in a single effort. The reflection and judgment shown in the effcef of the mental temperament are not seen, and the force and steadiness of the motive contrast with the volatility of the vital. The defensiveness of combativeness, therefore, under such an influence, while it may exhibit spirit, impulse, *elan*, is uneven, fluctuating and intermittent; its courage indicated at first with great energy must carry its point soon, or it becomes fitful and irregular. In the conflict when there is a call for volunteers for assault or charge that must do its work in a twinkling or fail, the soldiers with the vital temperament would be efficient; but when a struggle is impending that will be stubborn and prolonged the soldiers with the motive temperament are fitter for the service.

Our article has exceeded the length that we purposed to give it, and we have done little beyond indicating those points that are fundamental to a consideration of the subject. Yet the reader, to whom it may be new, has, we trust, been convinced by the importance of the function exercised by temperament in the manifestations of mental faculty.

## FRIENDS, TO YOU OUR THANKS.

IN reply to a request published a few months ago a very large number of the JOURNAL readers have sent us their opinions with regard to the matter which should have preference in our pages. The interest in the success of the JOURNAL that these opinions evidence merits more than passing mention, aside from the fact that the writers naturally expect some recognition on our part of the suggestions that have been made by them. First, we should say that the solicitude of all with reference to the success of our publication is gratefully acknowledged, and is itself a strong assurance of the good faith in which their suggestions were offered.

The great majority, at least seventy-five per cent., of the letters ask especially for a larger space in the magazine for the discussion of phrenological topics. "We cannot have enough information with reference to the human mind and character," is their common sentiment. Next in number are those that ask for more matter relating to health and hygiene. We were surprised by the slight mention of the department of Child Culture, and are inclined to attribute the omission to the probable idea of most correspondents, that the consideration of that topic naturally enters into the larger subject of mind development.

In the numbers for this year more space has been given to the study and illustration of human nature than has been the practice for many years, so that we have met the demand of the seventy-five per cent. of our correspondents, almost in advance, and it would appear that our subscribers at large are pleased, as in their renewals for the current year they generally express satisfaction with the contents and appearance of the fresh numbers. This modification of the substance of the JOURNAL necessarily reduces the space heretofore appropriated for miscellaneous reading, but as it is in closer keeping with the spirit and pur-

pose of the magazine, it is what an intelligent reader would expect to find in a monthly devoted mainly, by its title, to phrenological literature.

A few correspondents think that a story department might be added with good results, and one, rather lonesome in his opinion, thinks it would be well to insert articles on *electricity*. The suggestions by perhaps half a dozen that articles on magnetism or hypnotism would be acceptable to many readers, we consider pertinent, and shall, as we have opportunity, insert gleanings from the more recent developments of that wonderful domain of psychic phenomena.

We must repeat that the practical expression on the part of so many readers of interest in the welfare of the JOURNAL receives our heartfelt thanks, and will command our respectful attention in the future management of its literature.

## A MORE CHEERFUL VIEW.

THE recent volume by Dr. MacDonald on criminal phenomena which we reviewed in a recent number of this magazine, contains certain statements by its author that show the tendency of late opinion with regard to the criminal conduct of men. While the work is mainly a compendium of opinions drawn from the observation of eminent anthropologists and those who have devoted themselves to the study of vice and crime, incidentally the author expresses his own view in clear enough terms. For instance, he says in one place:

"Criminal phenomena and the manifestations of insanity bring nothing new; they are nothing further than distorted or diseased manifestations of mental activities, which, by themselves, are present in every man; but in some they develop in one of the other direction. No one is sure that his mental soundness cannot be endangered through outer or inner troubles, or that he can escape inclinations which might lead to crime."

This we readily accept, because it is in keeping with utterances made in these columns, and before public audiences. Sometimes by such avowal we have incurred the caustic criticism of men and of even women who, holding the theory of an hereditary transmission of criminal instincts, like Lombroso, treat the inveterate offender against law, social and civil, as one defective constitutionally, and akin to the insane or idiotic.

A further expression in keeping with the above quotation occurs among Dr. MacDonald's general conclusions from his study of the data, viz.:

"Education, in the narrow sense of mere intellectual instruction, is not sufficient to reform children who spend one fourth of the day in school, and three-fourths on the street, or with criminal, drunken, or idle parents. There are reform schools, but they make no provision for little children. Not a few of the inmates of reformatories come there practically incorrigible, and the testimony of prison wardens is that some of the most hopeless prisoners are graduates of reform schools. The fault is not in the reform schools, but in allowing children to live the first years of their life in surroundings that almost predestine to crime. Reformatories are expected to erase the indelible criminal

impressions made upon children from birth, or before, till the age of six. Instead of deserving criticism, the wonder is that reformatories do as much as they do."

In brief this is an affirmation of the ground we have been standing upon for many years. It may be repeated, too, that the principle involved is in accordance with the phrenological doctrine that considers all men amenable to training and improvement, whatever may be the degree of moral degeneration or perversion. This may be termed optimistic by the casuist, but it is an optimism that is rational as well as hopeful for the advancement of human nature. Dr. MacDonald must be deemed equally optimistic, for he remarks even after his careful survey of the worst phases of human degradation, "All men, no matter how old in crime, can at least be improved and benefited."

## Our Mentorial Bureau.

### To Our Correspondents.

QUESTIONS OF "GENERAL INTEREST" ONLY WILL *be answered in this department. But one question at a time, and that clearly stated, must be propounded, if correspondents shall expect us to give them the benefit of an early consideration.*

ALWAYS *write your full name and address plainly. If you use a pseudonym or initials, write your full name and address also. Some correspondents forget to sign their names.*

WE CAN NOT UNDERTAKE TO RETURN UNAVAILABLE *contributions unless the necessary postage is provided by the writers.* IN ALL CASES, *persons who communicate with us through the post-office should, if they expect a reply, inclose the return postage, or what is better, a prepaid envelope, with their full address. Personal and private matters addressed directly to the Editor will receive his early attention.*

OXYGEN TREATMENT.—I. C.—The best oxygen treatment consists in deep breathing of good air and eating nutritives and easily digested food. In other words a properly adapted hygiene will supply all the oxygen needed by the body. A much advertised "system" of oxygen treatment to which our attention has been called by the inquirer, lays much stress on good habits, dietetic and so on, in the circular given to those who try the treatment. This goes so far as to indicate with some particularity, the kind of food the patient should eat and how he should dress, sleep and exercise to secure the effects derived from the use of the expensive apparatus that is furnished to those who pay for it. Thus, the whole matter is "given away," as the one who is intelligent with regard to hygiene readily perceives. The apparatus for taking the oxygen, whatever may be its name, is but an appendage to the hygiene, and really unnecessary. Lungs are constituted to take up a certain amount of air, and in breathing fully and freely is the natural way to supply the requisite quantum of oxygen to the blood, as it circulates through the lung substance. Deep breathing, without artificial aids will usually invigorate the lungs and develop a greater capacity of respiration, unless the patient has become fixed in habit and too far advanced in pulmonary disease.

CONSTITUTIONAL CATARRH.—JR.—This condition may be defined as a general disturbance of the secretory organism, especially the numerous membranes, manifested either by an excessive flow of the products of secretion or a subnormal flow (atrophy). The trouble may exhibit itself in a particular locality, and so draw the person's special attention to that locality, and he may think that it is the only thing out of order in his composition. It is usual for catarrh to indicate itself chiefly

in some special organism for the reason that such organism is weaker in function than other parts, and so more susceptible to disturbance.

SEX IN BRAIN—H.—The main difference between the brains of men and women consists in the arrangement of organic areas. The idea of a larger amount of gray matter relatively to size being in the male brain is more fanciful than true, and the statement you send, in the newspaper clipping, cannot be said to be a fact determined by sufficient investigation. Given two brains of like measurement and quality, one feminine and the other masculine, we think that the general product of close analysis would show very little difference in the amount of gray substance. Quality and temperament affect the distribution and extent of the convolutions; the deeper the folds and more complex, the more numerous the layers and the greater the quantity of that cellular tissue that is regarded the basis of ideation, thought and impulse. If the fact stands that the male brain weighs 4½ ounces more than the feminine, then, quantity for quantity, there is more of both white and gray material in the former. As for the specific gravity counting in the comparison, assuming that it is more in the male brain, if it has any value in the mental expression, what have we to say with regard to the anthropoid ape, the chimpanzee for instance, whose gray tissue is said to be heavier in degree than that of the human article?

THE LOWER JAW.—QUESTION: What is indicated by the lateral development of the lower jaw at its posterior angle where it goes up to form the joint in front of the ear? Also, how is the element of mind represented by this development affected by differences of organic quality? In all cases which have come under my observation, with one exception, where the development was strongly marked, there was less than an ordinary degree of quality. H. E. B.

ANSWER:—As the maxillary or jaw bones are related primarily to offices of nutrition, and also used as weapons of defence and offence, it is easy to see why their special development should be associated with a low grade of quality The lower the animal, the more simple are its means of defence, and the higher the grade of refinement, the greater will be the tendency to rely upon intelligence and artificial wea-

Indeed, the disuse of the teeth in the preparation of food for digestion has become a very serious matter to many people in our advanced civilization, since the supply of saliva is thus curtailed.

Now the hog seems to possess the most marked development of the jaw to which you refer, and he is equally remarkable for the strength of his appetite. He may also be said to represent the lowest grade of quality, so that we may find in this degraded animal perhaps the best illustration of the mental characteristics you are seeking to define. In short, then, the broad jaw means animality, and of a phase related to selfishness and greed. This is the primary point, but as a concomitant disposition the leading authors on physiognomy have recognized in such organizations the quality of contrariness. The hog, who is no doubt jealous of his life-business of eating, probably exercises the policy of constant resistance as the best adapted to favor his interests. He evidently feels that if you choose north, he would be less likely to lose by taking the south; and being dominated by selfish appetite this mental process becomes a habit.

As to the manifestations in instances of finer organic quality, the selfishness and contrariness will still be present, but expressed on a higher plane and with more refinement of manner.

## PERSONAL.

OBITUARY.—It is with regret that we record the death of Marietta Meserve Morris, wife of Prof. George Morris, on December 29 last, at her home near Portland, Ore. But a little past thirty, she had given promise of a career both noble in itself and of great value to those among whom and for whom she was glad to labor. A teacher by early practice and later a phrenologist, she was in the field an exemplary and successful worker, and specially encouraging to other women who have given themselves to the public demonstration of the most humane of sciences. As a student of the Phrenological In-

stitute she honored it in her life and service, and the asterisk that must hereafter include her name among those on the list that have passed away will also signalize a loss to the world that may not be easily filled.

One secret of Gladstone's tireless activity and youthful vigor is suggested by the following illustration given by the great statesman not long ago: "There was once a road leading out of London on which more horses died than on any other, and inquiry revealed the fact that it was perfectly level. Consequently the animals in traveling over it used only one set of muscles." It is the variety of his life's activity that has preserved his body and mind in so wonderful a degree of vigor.

George Macdonald, LL.D., the famous poet and novelist, is said to be a tall, impressive looking man, a little high shouldered, and not without a tendency to Scotch gauntness, with a head large, especially in the parts in front of the ears and in the upper region, and generally well shaped. His features are fine, and the whole expression noble. His hair is long and flowing to the shoulders, the beard and moustache full and, like the hair of the head, grizzled. In keeping with this description of the man, his books are striking, almost obtrusively philosophical, and not so artistic in execution as lofty in purpose.

## Library.

*In this department we give short reviews of such* New Books *as publishers see fit to send us. In these reviews we seek to treat author and publisher satisfactorily and justly, and also to furnish our readers with such information as shall enable them to form an opinion of the desirability of any particular volume for personal use. It is our wish to notice the better class of books issuing from the press, and we invite publishers to favor the Editor with recent publications, especially those related in any way to mental and physiological science. We can usually supply any of those noticed.*

Bible Studies:—Readings in the early books of the Old Testament, with Familiar Comment, given in 1878-9, by Henry Ward Beecher. Edited from stenographic notes of T. J. Collinwood by John H. Howard. 12 mo. pp. 436, Fords; Howard & Hulbert, Publishers, New York.

Of Mr Beecher it can be said, and the application fits few men who have lived in the present century better, that "being dead he yet speaketh." Out of the great wealth of his thought comes to us now and then a volume that engages our close attention with the freshness and vigor of the sentiments and the aptness of the principles, and recalls the wonderful power of the Plymouth orator to make spiritual truths clear to the ordinary mind. These Bible studies are particularly noteworthy for their simplicity of style, although they show no small amount of learning on the side of exegetical criticism. Mr. Beecher is considered by many as much wanting in the scholarship of the seminaries, but is not the impression largely due to the very clearness and unblemished style of his utterances? He never affected profound learning, but sought to present views, when he preached on controversial subjects, that would appeal to the common sense of his auditors. A cursory glimpse at some of the titles of the readings, viz. :—"Jacob," "Joseph," "Moses," "Emancipation," "The Wilderness and Sinai," "The Sabbath," "Mosaic Institutes,"—three lectures—"Humanity," "The Household," and "Social Observances," "The Feast of Tabernacles," "In the Land of Moab," "Campaigns of Joshua," "A Time of Degradation," shows that the peculiar mind and experience of Mr. Beecher have a field in their discussion that renders his words more than commonly entertaining and impressive. We can not doubt that the volume will be warmly greeted by Church people—Bible students especially.

Faith Healing, Christian Science and Kindred Phenomena. By J. M. Buckley, L.L.D., 16mo. pp. 303. The Century Co. New York.

For many years the author of this volume has given attention to the study of the extraordinary mental phenomena included in the terms of Astrology, Divination, Witchcraft, Mind Cure, Mind Transference, Presentiments, Somnambulism, etc. His observations, marshaled in an orderly manner, and analyzed with a critical acumen that is rare enough among book

writers, form the substance of the book. From all sources of a trustworthy character Dr. Buckley has drawn his instances and so covered the field designated in his title that the treatise forms an excellent reference for the use of those who would make more than a passing inquiry into the field of psychic mystery. The keynote to his investigations is sounded at the beginning in the following:—"before endeavoring to explain how phenomena exist it is necessary to determine precisely what exists, and that so long as it is possible to find a rational explanation of what unquestionably is, there is no reason to suspect, and it is superstitution to assume, the operation of supernatural causes." The good judment generally exhibited in discussing the phenomena must, we think, command the approval of every candid reader.

HUMAN WONDERS, FREAKS AND DISEASES. By E. B. Foote, Jr., M. D., New York.

In a pamphlet of 149 pages we have grouped many important facts of physiology, and not a little of valuable advice of the preventive and remedial kinds. The leading feature is a lecture entitled, "The Seven Wonders of the Human Body," which is illustrated in which many curious things are mingled with a description of the main elements of physical structure. Under the heading of "Antexæmia" or self-poisoned blood, the author considers improprieties of habit and living that conduce to disease and death. Dr. Foote strongly advocates hygienic procedures in the correction of unhealthful habits and in the treatment of common ailments.

PROCEEDINGS OF THE AMERICAN ASSOCIATION for the Advancement of Science for the Fortieth meeting, held at Washington, D. C., 1891.

A paper on "The Ether," by F. E. Neptrea, and an elaborate address on certain geological formations in the middle eastern section of our country, by Prof. John J. Stevenson, are among the specially notable features. Interest in Anthropological topics appears to be increasing, yet we should like to see more space devoted to matters specially human. Published by the permanent ecrestary, at Salem, Mass.

## PUBLICATIONS RECEIVED.

THE JOURNAL OF THE SOCIETY OF SCIENCE, LETTERS AND ART, of London, England, January 17, 1893, contains itemized notes of late proceedings and abstracts of the more important papers read at meetings, also information with regard to students, examinations and competitions, applications for membership, certificates, etc.; also illustrations. Address the Secretary Society of Science, Letters and Art, 160 Holland Road, Kensington, London.

TWENTY-FIRST ANNUAL REPORT OF THE MANHATTAN EYE AND EAR HOSPITAL, WITH THROAT AND NERVOUS DEPARTMENTS, NEW YORK.

This hospital has become one of the most important charities of the city as its large record of medical work evidences.

THE JUVENILE POEMS OF MR. INCOGNITO, Saidapet, India. 1892.

A small collection of 66 pages that may be much more kindly considered by the friends of the author than the general public. As a whole the production belongs to the extraordinary in more senses than one, especially nonsense. The term "juvenile" in the title is doubtless an affectatation, for there is a serious maturity in the fun-provoking lines.

THE ATHLETE'S CONQUEST.—A Novel by B. A. McFadden, Teacher of Physical Culture, St. Louis, Mo. J. H. & C. W. Brown Publishing Co. 1892.

The purpose of this story is indicated in a general way by the words of the dedication, which are as follows:

"To all those who, though yearning for the happiness that comes with health and general bodily vigor, know not the means whereby it can be acquired, this book is respectfully dedicated."

We heartily encourage the efforts of all who contribute to the general fund of information upon subjects of such paramount importance as bodily and mental health, and it gives us pleasure to recommend this book. Being in the form of a story, it will, no doubt, be acceptable to a great many who would hardly care to receive instruction in the art of physical development, if it were conveyed through the channel of a dry, scientific treatise. Indeed, we doubt if there is any other way by which so large a number of readers can be reached.

IGNACE JAN PADEREWSKI.